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SEPTEMBER 1949

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— IN THIS ISSUE —

AMATEUR RADIO

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EDITORIAL

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BAND-PLANNING (Continued)

We have dealt in previous Editorials with the methods used in other countries of the world to arrive at some equitable sub-division of our bands between telephony and telegraphy, without the imposition of regulatory restrictions. To complete the picture, we now deal with our own efforts in this direction.

The first post-war move was made at the 1946 Federal Convention when it was decided to allot 100 Kc. on the low frequency end of 28 Mc. to c.w. Again at the 1947 Convention, steps were taken to approach the I.A.R.U. with a view to arriving at an internationally agreeable formula. This proposal did not advance the position greatly as the I.A.R.U. were stalemated by other Administrations. At the 1948 Convention, and again confirmed at the 1949 Convention, all Divisions agreed to publicise and observe, on a "gentlemen's agreement basis," the following frequencies for exclusive c.w. use, the remainder of the bands to be phone and c.w.:—

3500- 3550 Kc. c.w. only
7000- 7030 Kc. „ „
14000-14100 Kc. „ „
21000-21100 Kc. „ „
28000-28100 Kc. „ „

It must be remembered that in finally arriving at these set of frequencies much thought had first been given by delegates from all Divisions, and is representative of the average cross section of Australian Amateur feeling.

While the above represents the present position, what of the future? It is to the future we must look in all our deliberations so that a present plan may dovetail into any future scheme. It is evident from these Editorials that no administration wishes to take the step to make such voluntary sub-divisions mandatory. We personally feel this to be a retrograde step, but how to face the problem in a few years. We have on record a motion from the 1948 Convention which reads: "That this Federal Council resolves to develop and foster the International exchange of information between Amateur Societies concerning the political and technical aspects of the most effective use of the amateur frequency spectrum."

This motion will be the guiding "star" for your Executive. Much has been done and is being done to this end by individuals. Single sideband suppressed carrier is a partial solution to the accommodation of additional phone stations within the spectrum. We foresee some such development in telegraphy technique with the greater need for sharper and yet sharper frequency discrimination.

The ultimate solution may be the entire exclusion of modulated carriers from c.w. operators' receivers and vice versa; the Amateur Radio Utopia of tomorrow. Our immediate aim is therefore to press on in the terms of the motion beforementioned, foster the technical developments that must eventually come and our longstanding problem of phone versus c.w. will be no more.

Right now, we must urge all Amateurs to recognise the present voluntary sub-division of our bands and at the same time, work and plan towards the ultimate goal enunciated above.

—W. T. S. M.

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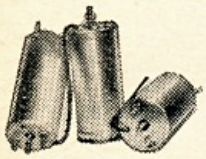

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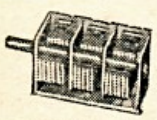

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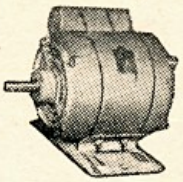

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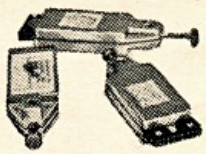

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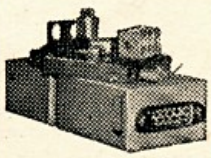

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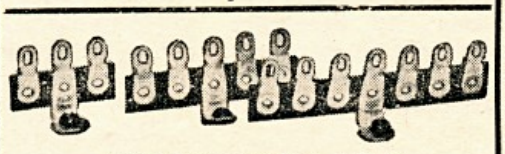

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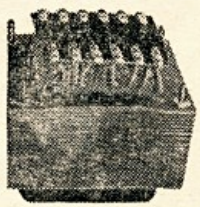

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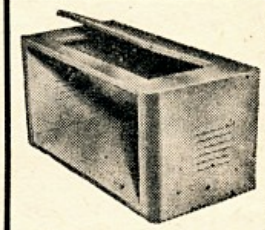

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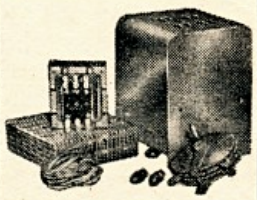

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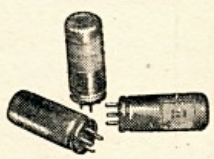

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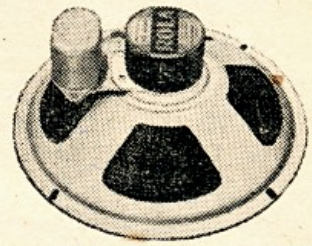

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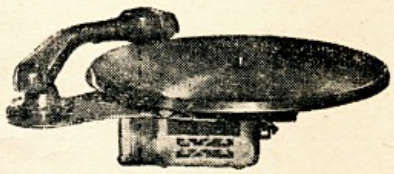

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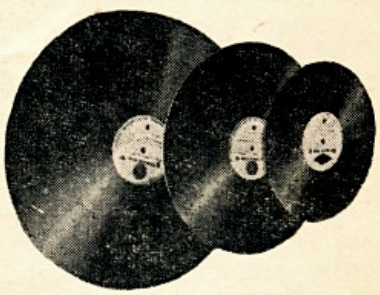

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The Phasing System of S.S.S.C.

BY F. M. NOLAN,* VK4FN

With the recent announcement that s.s.s.c. type A3A transmission is now permitted to Amateurs, quite a few of our members are asking what is Single Sideband Suppressed Carrier (s.s.s.c.). It is not proposed to go into deep theory on the subject, but instead to make the article as simple as possible and cover the practical side of the subject.

There seems little doubt that s.s.s.c. is destined eventually to supplant the now conventional double sideband system of modulation, because simple reasoning leads to the conclusion that a system of communication, which occupies twice the space required for the purpose it serves, cannot long last in view of the perpetual squeeze for more frequencies for every type of service.

When it is possible to eliminate one sideband and the carrier, one finds it impossible to find an argument in favour of the present system; more over, the use of s.s.s.c. will be a great help in solving the phone-c.w. controversy, which, as you know, has raged for years.

No, this single s.s.c. system of communication is not new—in fact it has been in use for many years in the P.M.G. Department on Carrier Telephone Systems, which is in effect wired radio; however, its use has been restricted because of the costly and exacting requirements of balanced modulators—several being required for satisfactory operation.

It is difficult to discover the originator of this system as applied to Radio, as we know it. In I.R.E. Proceedings for May, 1942, an article by Paul Loyet gives details of a system using balanced modulators, and in "Electronics" for November, 1945, a complete station is described by M. A. Honnell. However, this application is also very complex. It was not until 1946 when R. B. Dome, in "Electronics" for December, designed a simple audio network capable of giving 90 degrees phase shift over a wide band of audio frequencies, that s.s.s.c. became a practical possibility for the Amateur. This phase shifting network is shown in Fig. 1a.

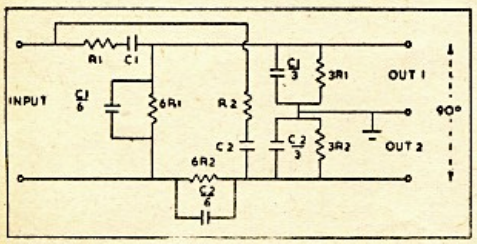


Figure 1a.

BASIC PHASE SHIFTING NETWORK

For Voice Frequency—

R1C1 = 100 R2C2 = 453.

R in Ohms, C in Micro-Farads.

R1 should be 10,000 ohms,

R2 = 100,000 ohms.

* Dawn Street, Stafford Heights, Q'land.

Last month the Filter System of s.s.s.c. was fully described in "Amateur Radio," and this month the Phase Shifting System is presented by F. M. Nolan, VK4FN.

It seems s.s.s.c. has got something. With a.m. we waste power transmitting an unnecessary carrier, and two side bands which both carry the same intelligibility, and in addition takes up extra bandwidth into the bargain. Will we see the day when amplitude modulation is completely supplanted by s.s.s.c.?

As you know the sidebands generated in modulating a carrier are merely the sum and difference of the r.f. and audio signals. It is possible to produce the sidebands either by adding the audio and r.f. or subtracting the audio from the r.f. As subtraction is merely the addition of a negative quantity, this whole process could be called addition. Now if the device which effected the addition was arranged so that it would only produce the result of the addition and would not deliver the r.f. component without the audio first being present, a s.s. generator capable of operation at any radio frequency without filters would be possible. A device of this type has been known for years, but it has been wanting a simple practical way of producing the special type of audio modulating signals to make it work.

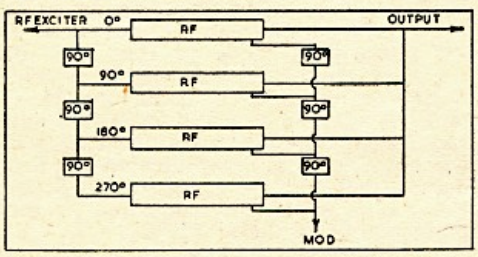


Figure 1.

Figure 1 shows the frequency adding circuit in block form, it consists of four r.f. amplifiers with their outputs commoned, the four amplifiers are excited from a common source with r.f. voltage which is shifted 90 degrees in phase from one amplifier to the next. They are all modulated by the same audio, but the audio is also shifted 90 degrees in phase between amplifiers. When there is no modulation present, the net output is zero; with modulation the output is either the sum of the r.f. and audio, or the difference between the two, depending upon the polarity of connecting the r.f. and audio amplifiers.

Now this system consists of two basic units.

(1) A r.f. amplifier containing four tubes connected in such a way that the output developed in the load is progressively shifted 90 degrees in phase from tube to tube, and

(2) A modulator delivering four outputs from the same audio signal which are also shifted 90 degrees from one output to the next to modulate the four r.f. tubes.

There is another way of looking at the progressive 90 degrees r.f. and audio shifts. Two 90 degree shifts in the same direction add up to 180 degrees, so one pair of r.f. tubes can be connected to deliver output to the load 180 degrees apart, while the other pair do the same thing, but is shifted 90 degrees in phase from the first pair. The same situation holds for the modulation, which can consist of two 180 degrees out of phase audio output with a 90 degree shift between them.

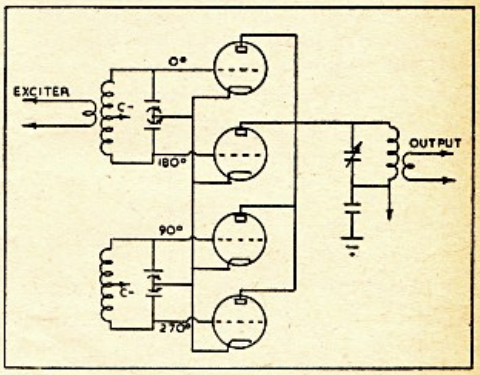


Figure 2.

Requirement 1 can be met in several ways. Figure 2 shows one possibility. Here a pair of two-tube amplifiers are used with the grid circuit of each amplifier consisting of an ordinary split tank. Excitation is applied to one grid circuit through a link, while the second circuit receives excitation by inductive coupling to the first. Two ciruits inductively coupled and tuned to the same frequency, develop voltages 90 degrees apart, so the required 90 degrees between tubes is obtained. If the grid voltage in the upper tube of Figure 2 is assigned a reference of 0 degrees at some particular instant, the other tubes are seen to have relative grid voltage phases of 180, 90, and 270 degrees. To add the outputs of the four tubes in a common output circuit, the plates are merely tied together and connected to a single tank circuit.

The arrangement of Figure 3 accomplishes the same thing as Figure 2, as far as the output is concerned, because the tubes which are excited in parallel, induce voltages 180 degrees out of phase in the load circuit due to being connected to opposite ends of tank circuit. The advantage of Figure 3 is that single excited circuits are used in the position of the unit where the 90 degrees shift must be produced and any simplification of phase shifting simplifies the adjustment of the amplifier. The balanced plate circuit is also somewhat easier to handle in a practical set-up than the single ended job.

Requirement 2 can be met by using Dome's method of phase shift.

The r.f. amplifiers in either Figure 1 or 2 will not deliver any output as shown, in either case the excitation frequency is cancelled in the output. If, however, the amplifiers are unbalanced by changing the output of the individual tubes in respect to each other, there will be a net output in the load circuit; if a fixed or static unbalance is introduced, the r.f. excitation appears in the output. If a varying unbalance is introduced by applying the four modulator voltages in such a way that each pair of tubes, which are drawn from the same grid circuit, gets 180 degrees shifted modulation, with the 90 degrees audio shift being between tubes connected to different grid circuits, the unbalance under modulation is such that a single sideband is produced, as there is no unbalance when there is no modulation the excitation in carrier frequency does not appear in the output.

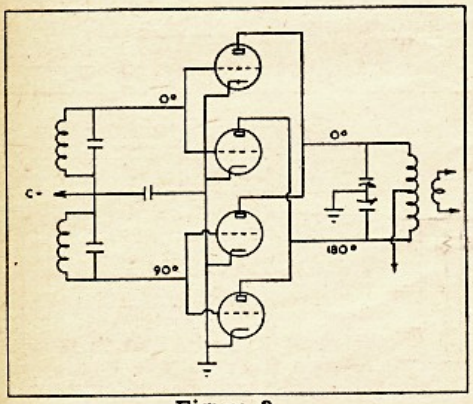


Figure 3.

Figure 4 shows in block form how the audio is applied to Figure 3. Any conventional system of modulation can be used with this system, provided that the modulated amplifiers are similar in at least one direction with respect to the modulation. Low level modulation has advantages due to the fact that phase shifting is best done at low levels. Also it makes for less audio power required in the modulator. Either control grid, screen grid or suppressor grid can be used to advantage, whilst screen grid modulation of tetrodes has certain advantages in efficiency.

Control grid modulation has a disadvantage in that the impedance looking into the grid varies over the modulation cycle. When the phase and amplitude of the r.f. grid voltage must be closely controlled, as it must be with s.s. generators, the grid must be heavily swamped with resistance to prevent changes under modulation. With screen grid modulation, tests have proved that the impedance change in the grid circuit is so small as not to effect the phase relationship in this circuit.

With screen grid modulation the audio requirements are small. For instance, two type 6L6 tubes can fully modulate 200 watts in this type of s.s.s.c. transmitter. The only catch is the modulation transformer. These require to match the plate of the modulator tube to something like 20,000 ohms and must be centre tapped very accurately. The balance of the windings must be good, otherwise the voltage delivered to each screen grid will not be exact, with the result distortion and non-linearity takes place.

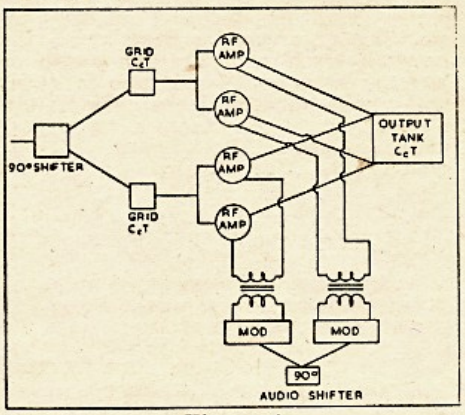


Figure 4.

In experiments with this system, two different commercially built modulation transformers have been tried, and results were very disappointing. The writer then set about designing modulation transformers for the job, which were wound in a pair by a local transformer winder, and they worked out very well indeed.

PRACTICAL CIRCUIT — Several combinations of r.f. amplifiers were designed and tried before the one shown in Fig. 5 was finally adopted. In this amplifier you will notice the grid circuits of the four tubes are arranged so as there is a 90° phase shift between each pair; this is achieved by inductive coupling. The plate circuit of these four tubes is arranged in a push pull-parallel circuit, but with a 90° phase shift grids at 180° shift in the plate circuit; that is, they are connected to opposite ends of the plate tank. A study of this will show that our requirements of Fig. 3 are now met and we now have an amplifier that when driven, will not give any output because the r.f. is effectively cancelled in the plate circuit of the amplifier.

The purpose of L3 is to reduce the direct coupling effect of L2 on the co-ax line linking the exciter to the p.a. It is mounted at right angles to the grid coils and acts as a terminating load to the exciter.

The modulation system decided upon was screen grid for the following reasons:—(1) It is easy to apply to our generator; (2) S.G. Modulation does not have the same loading effect on the grid circuit as does grid modulation; (3) The modulator is inexpensive and easy to construct.

In this modulator the Dome method of phase shift, mentioned previously, was used. This resistance capacity method is simple to construct, and the average Ham will have little trouble with it as long as reasonable care is taken in selecting the various condensers and resistors. These must be within very narrow limits of the specified value and where two or more values are the same, they must all be of identical values.

Suppose we want four condensers of 200 pF., and on measuring we find we have three whose values are 201 pF. All we require is another one which measures 201 pF. and all is well, **but** if you use random commercial values, or take for granted the marked value of components, you will run into trouble. Measure and match all resistors and condensers in the 6SN7 stage, also the two amplifier stages following this.

With the Dome phase network, the impedance of the driver must be low compared to the network and to achieve this was a problem, as the drive to the modulator stage must be even to each stage, and we had the problem of obtaining two signal outputs which were 90° out of phase. Finally it was decided to use a 6SN7 tube with both triode sections in parallel with a load of 2,000 ohms in both plate and cathode circuits, under these conditions this driver gives a good output voltage and the tube is quite stable when driving the network. The remainder of the circuit is self explanatory.

Now having built our modulator and side-band generator, let us put it to work. For this you require an audio frequency oscillator, a cathode ray oscilloscope, and also a dummy load.

The modulator section should be tackled first, connect a 20,000 ohm resistor across each modulation transformer secondary and check d.c. voltages on all tubes to make sure the circuit is correct. Connect the oscillator

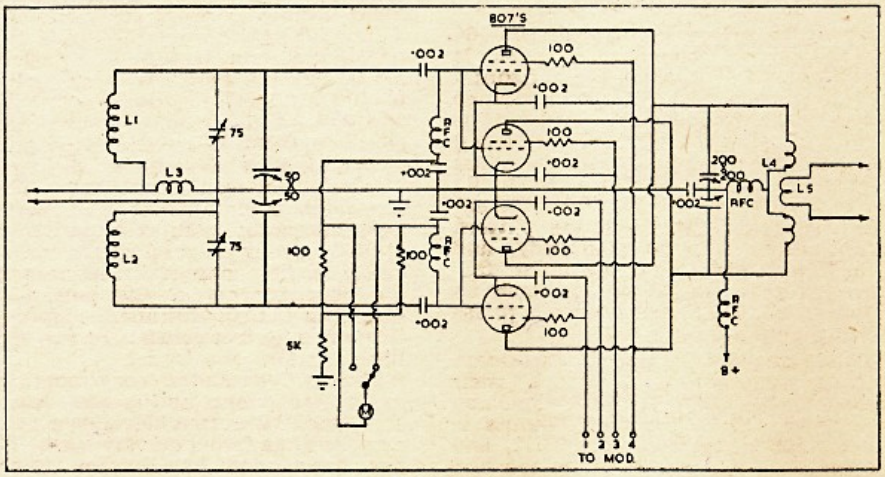


Figure 5.

to the input and check the audio voltages throughout the unit, making sure the audio voltage at the cathode of the 6SN7 is the same as at the plate of this tube.

The audio voltage at the grid of each 6L6 is approximately the same amplitude as at the plate of the 6J5 and when making this measurement, make sure the input voltage is low and that the amplifier is not overloading. If all appears well, the next point is to check the phase shift networks, but first disconnect the feed back resistors from the 6L6 tubes.

Before checking the networks, it is necessary to check our oscilloscope to make sure there is no internal phase shift, which would give us false readings. To do this, switch to external sweep and the horizontal amplifier to external signal, strap the two inputs together and connect to one of the 6L6 grids. Run the oscillator through the range 150 to 4000 c.p.s., while observing the pattern on the screen with various settings of both the vertical and horizontal gain controls. A diagonal line on the screen indicates no internal phase shift. Internal phase shift is indicated by the presence of an elliptical pattern at some frequencies. If this occurs it may be possible to eliminate it by juggling with the settings of the horizontal and vertical amplifier gain controls, the object being to maintain a straight line at an angle of 45°. This indicates equal vertical and horizontal sensitivity and zero phase shift over the audio range.

If it is not possible to get equal sensitivity when the controls are set for zero phase shift, the accuracy of the results will suffer but the c.r.o. can still be used successfully.

Now let us assume all is well with the c.r.o. and no phase shift is present for any setting of the controls.

Disconnect the two 250,000 grid resistors from the 6L6 tubes, and in their place connect the two c.r.o. inputs. Now with the oscillator supplying input to the modulator, you should be able to adjust the scope amplifier until a circle appears on the screen, and this circle should remain when the oscillator is varied over the range 180 to 3200 cycles. The circle may appear very slightly elliptical over this range, but no pronounced tendency towards an ellipse should be obtained until the frequency reaches 150 or 3500 cycles.

Should an ellipse appear between 180 and 3200 cycles, something is amiss. If the ellipse has axes which are horizontal or vertical, and does not tilt or change shape as the frequency is varied, it is merely an indication that the two output voltages are not equal, but the phase relationship is OK. This trouble should be corrected in the 6SJ7-6L6 stage which is low. However, if the pattern is an ellipse at some frequency and turns into a circle at some other frequency, or if the ellipse changes its shape or tilt, the fault lies in the phase shifting network.

The best way to check the phase shifting networks, is to check their resonant frequency. This is done by connecting one of the scope inputs to the plate or cathode of the 6SN7, and leaving the other connected to the 6L6 grid. The resonate frequency is indicated by a diagonal line pattern at some frequency. This resonate frequency should appear quite sharp and should be at 1590 cycles for channel A, and 350 cycles for channel B, and at the resonant frequency there should be a 90° change between each channel. If these relationships are not obtained the networks may be doctored slightly by shunting large value resistors across the network resistors already in place, or by connecting small resistors in series with those already there. Decreasing the "R" raises the resonate frequency, whilst increasing the value of "R" decreases the resonate frequency. The ideal to be sought is for the resonate frequencies to have a ratio of 4.53/1, and to keep the output of each network constant over the audio band.

With the networks operating properly, the feed back resistors should be reconnected, also the grid resistors, and the c.r.o. inputs transferred to the secondaries of the modulation transformers, one terminal of each transformer secondary to the c.r.o. inputs and the other terminals earthed. When the output of each channel is equalised, the pattern should be a pretty respectable circle over the whole audio range, with an elliptical pattern just starting at 150 and 3500 cycles.

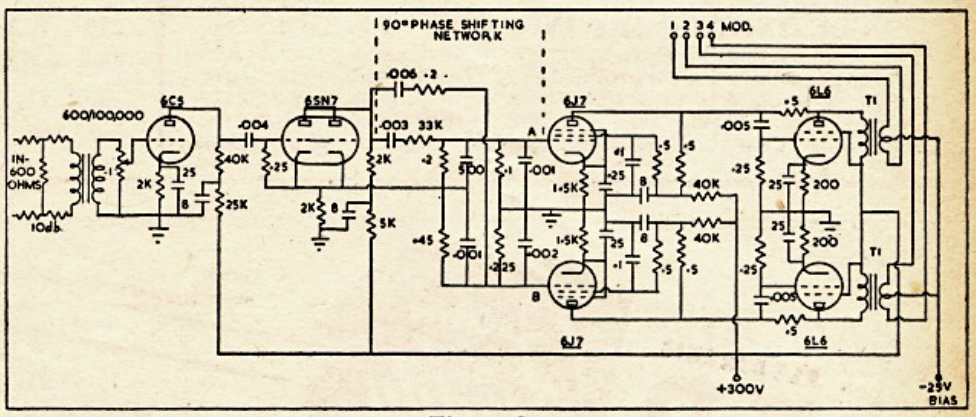


Figure 6.

TUNING THE R.F. STAGE This should be done with low plate voltage on the 807 stage and with the tap on the screen supply resistor at zero volts, so that there is no negative voltage on the screen grids of the side band generator tubes. With the plate voltage "off" and no modulation, tune the 23 plate condenser across L1 to maximum grid current and the coupling to the exciter should be adjusted to give between 15 and 20 Ma. on the grid meter in the first position. The coil L2 should be moved as far as possible from L1 and the condenser across L2 set at maximum "C".

Now attach a 100 watt lamp to the antenna terminals to act as a load, connect the plate voltage, and apply tone to the modulator, gradually raising the gain. As the modulation is increased, the plate current should rise, and it should be possible to tune the plate tank condenser to resonance. Power should be evident in the load.

Now couple the c.r.o. by means of a tuned circuit and link to the tank coil, and using the internal sweep of the c.r.o., it should now be possible to adjust the sweep until the pattern shows a series of half waves similar to that of a full wave rectifier before it is filtered. If the proper pattern cannot be obtained, adjustment of excitation, plate tuning, and load should bring it about; next couple the second grid coil to about one inch distance from coil L1 and tune the condenser across L2 to resonance, this being indicated by maximum grid current in the 2nd position of grid meter and a sharp dip in the grid current in the first position. Adjust the coupling until each set of tubes have the same value of grid current, making sure to bring the condenser across L2 to resonance, each time the coupling is changed. The pattern on the screen should now resemble that of an unmodulated carrier when modulation is applied.

Reduce modulation to zero, and observe if there is no vertical deflection on the screen, any deflection indicates that either the amplifier is unbalanced or there is direct coupling between the exciter and c.r.o. You can check this by detuning the plate tank, if there is unbalance the deflection will change, any unbalance must be eliminated. If there is coupling through the amplifier or around it, leakage patterns will give false readings and confuse you in your adjustments.

With stray coupling and leakage removed, modulating the amplifier should give a pattern on the screen similar to a well filtered, unmodulated carrier if the modulating frequency is a pure sine wave and only one side band is being produced. In practice, there is a certain amount of unwanted side band present, and the r.f. envelope will contain a small amount of ripple on the upper and lower edges. Slight adjustment of L2 and its associate condenser will give a minimum of ripple, and when this position has been found, L2 can be locked in position.

The writer has found that on 7 Mc., 50 Kc. shift in frequency can be made either side of the original frequency without re-adjustment, however frequency shifting is simple, just re-tune the split stator grid condenser for maximum grid current.

Now back to our tuning. Having adjusted for minimum ripple, reduce the modulation to zero, and set the screen bias at 20 volts. Slowly apply modulation. With a low value the plate current of the 807s will remain steady, or may even drop just slightly, and then rise. If there is a marked drop in the plate current, the screen bias and excitation

(Continued on page 7)

The Series Tuned, Electron Coupled Oscillator

BY R. J. WHITE,* VK2AHM

Perhaps the thing that is of most general interest to all Hams, both DX men and those who indulge in purely local QSOs, is a v.f.o.

Of these, the one that has been most in the public eye of late, is the series tuned, or "Clapp" oscillator, and an excellent job it is, too.

Unfortunately, its low output has several drawbacks to a person who cannot use a multiplicity of tubes to build up this small output, and also to multiply its frequency to the band desired. It was in an endeavour to overcome this difficulty that the following circuit was evolved.

Firstly a 6K8G was tried in an arrangement which was simply the triode section of the tube as a series tuned oscillator, but coupled to the hexode portion in the electron stream internal to the tube, instead of externally via the cathode, as is commonly used.

This worked well, having all the stability and quality of the "Clapp" with quite some gain.

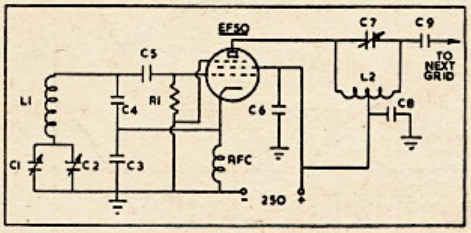
Still it was not considered that this output was great enough—which lead to trying yet another scheme which has proved to be the best v.f.o. seen so far.

This time an EF50 was used as an electron coupled oscillator. But, instead of the grid coil with cathode tap arrangement, it used a series tuned grid. (The name "STECO" immediately came to mind.)

Results were extremely good! Owing to the high gain of the EF50, the output was greater than in any ordinary e.c.o. used, while retaining all the best features of the "Clapp." Not only is the "Steco" good on its fundamental frequency and as a doubler, but also gives good output as a tripler and even as a quadrupler a useful amount of r.f. is obtained.

Stability is all that could be desired. Tests made, beating against WWV, show a drift of a few cycles over the first few minutes from cold and then a rock steady beat for seemingly an indefinite period.

This test was made with the grid coil on 14 Mc., doubling in the plate to 28 Mc.



C1, C7—50 pF. variables.
C2—100 pF. variable.
C3, C4—500 pF. ceramicons.
C5, C9—100 pF. mica.
C6—0.01 uF. mica.
C8—0.005 uF. mica.
R1—100,000 ohms.

L1—All coils wound on 1¼" plug-in coil formers. 80 metres: 43 turns of 24 gauge s.c. close wound; 40 metres: 17½ turns of 20 gauge bare, 1½" long; 20 metres: 7½ turns of 20 gauge bare, 1¼" long.

L2—40 and 20 metre coils are wound on 1¼" coil formers. 40 metres: 27 turns of 22 gauge enamel, 1⅜" long, tap 14½ t.; 20 metres: 10½ turns of 20 gauge enamel, 1¼" long, tap 5½ t.; 10 metre coil is self supporting of 1½" diameter mounted in tube base: 8 turns of 18 gauge 1½" long, tap 4⅞ t. All taps counted from plate ends.

The note—from a series of **critical** reports asked for, especially on 10 metres—is T9X.

Keying was done in the plate of the second and final stage, a 6K7; which is not the best place. Although there is a difference of 20 volts between key up and down, there is no sign of chirp; the power supply being a genemotor. Keying in the cathode, as in the "Clapp," should prove quite in order, although it has not been tried.

Construction is simple as the writer deliberately made no attempt towards extreme care, meaning to try the oscillator out under adverse conditions. Coils are wound on ordinary 1¼" diameter plug-in coil formers and only bakelite insulation used throughout for tuning condensers and tube socket.

One precaution was the mounting of the grid coil in a separate and very heavy aluminium box, which also contained the bandspread 50 pF. condenser.

It must be understood that the "Steco" is still in the experimental stage and has more to be done to it yet, e.g., the bandspread is not enough with the present condenser and some more work could be done on the coils. It is for that reason that this article is being written, for it wants someone who has much better facilities for frequency measurement, etc., than the writer has, to make one of these oscillators and try it out.

So anyone interested in a v.f.o. which, with say a 40 metre coil in the grid, will give an output on that band (there is some detuning in the plate circuit when used thus, and it is only used as a doubler), plus 20 and 15 metres and to a lesser degree 11 and 10 metres; this circuit is well worth a try. So let's hear your findings.

* Willow Point Station, Wentworth, New South Wales.

THE PHASING SYSTEM OF S.S.S.C.

(continued from page 5)

should be changed and the combination which results in only slight, or no drop in plate current, followed by a rapid rise as the modulation is increased, should be sought. When this has been found, a point will be noticed on the c.r.o., where as the modulation is increased, the output will stop increasing and the ripple begins to flatten off, this is the maximum modulation point at this stage. The loading and excitation should be adjusted so that maximum output is obtained before flattening occurs, checking to make sure that these changes do not cause a large drop in plate current at low modulation levels.

If the ripple is too slight to allow the flattening to be observed, a slight detuning of the condenser across L2 will produce the ripple. When adjusting for maximum loading and excitation, make sure to re-set this condenser to its former position, before the low modulation level test is made. The screen grid bias should be set to give minimum zero modulation input, provided that the plate current shows an increase and not a decrease for low modulation input.

Remember when setting up and tuning a s.s.s.c. transmitter, modulation **must** be applied to obtain output.

The operating conditions at present in use here at 4FN and 4WI are:—

Plate voltage: 530 volts.
Screen grid voltage: —25 volts.
Grid current: 8 Ma. per pair of 807s.
Plate current, unmodulated: 20 Ma.
Plate current, modulated: 150 Ma.

COIL DATA FOR 7 Mc.

L1—17 turns of 22 gauge enamel, 1⅛" long, on trolitol former 1¼" in diameter.

L2—18 turns of 22 gauge enamel, 1⅛" long, on trolitol former 1¼" in diameter. Wire spacing about half the diameter of the wire.

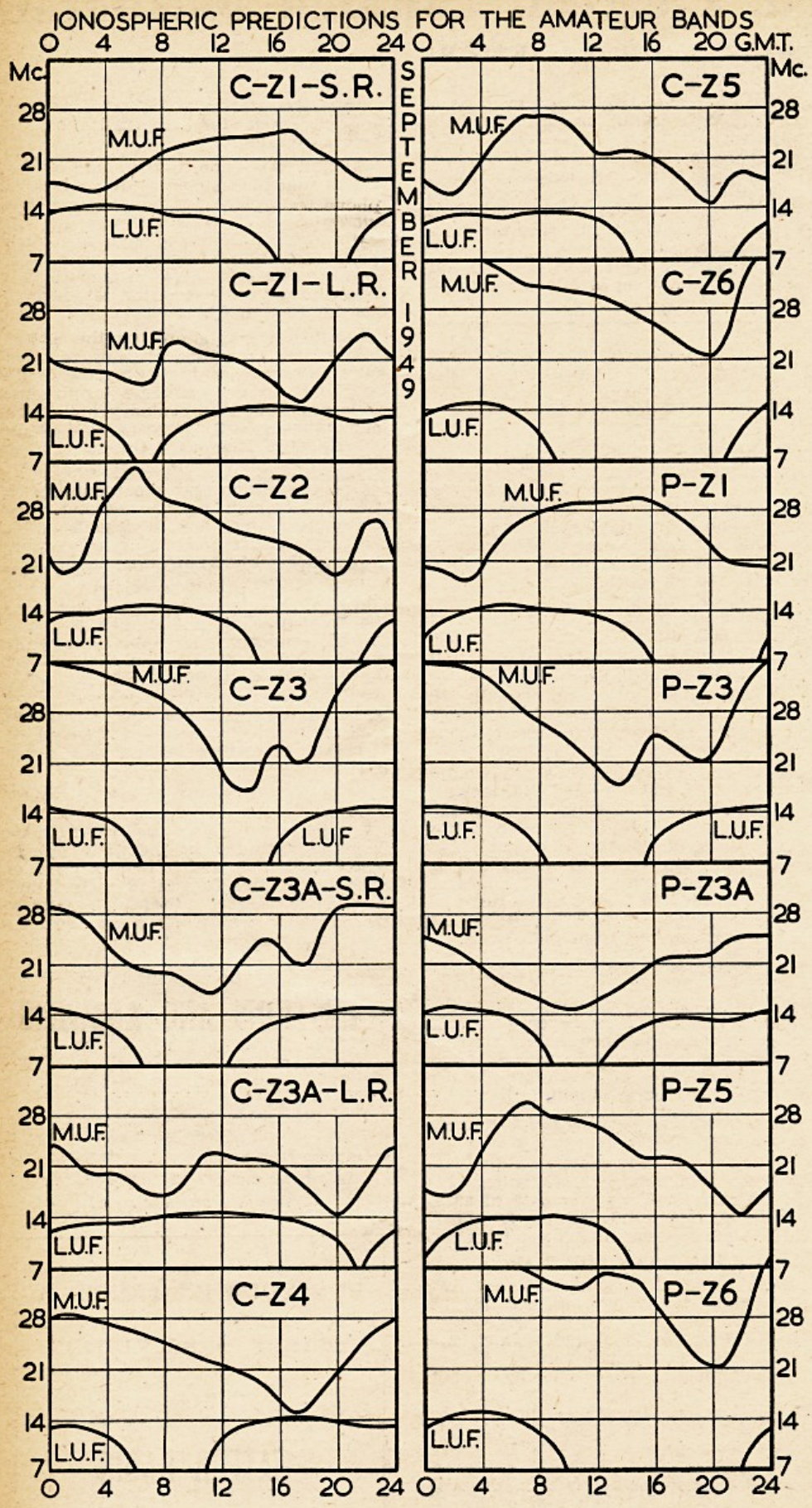
L3—4 turns of 16 s.w.g. enamel, ½" in diameter and ¼" long.

L4—8 turns plus 8 turns of 10 gauge copper wire, with ¾" space in centre for swinging link. Overall length is 5½", and 2-3/16" inside diameter.

QUESTIONS AND ANSWERS

Q.13.—VK7LL is looking for a circuit of the BC659A. Can anyone help?

Q.14.—VK3AKZ has a burnt out metal rectifier in the power pack of an MCR1 receiver. Has anyone got details of the electrical properties of this rectifier or suggest a suitable replacement?



IONOSPHERIC PREDICTIONS FOR THE AMATEUR BANDS

SEPTEMBER, 1949

The accompanying charts have been prepared by the Ionospheric Prediction Service of the Commonwealth Observatory. The first set of the series was published in the November, 1948, issue of this magazine, together with an article explaining the nature of the forecasts and how to use them. Nine of the charts, prefixed by the letter "C" for Canberra, refer to forecasts for the South-Eastern Australian States. The remainder, prefixed by the letter "P" for Perth, are for Western Australia.

The Canberra charts refer to the following world zones:—

Zone	Region	Terminal
1	Western Europe	London
2	Mediterranean	Cairo
3	N.-West America	San Francisco
3a	N.-East America	New York
4	Central America	Barbados
5	South Africa	Johannesburg
6	Far East	Manila

The forecasts have actually been prepared for point-to-point circuits between Canberra and the overseas terminals mentioned in the above table. It is, however, to be expected that the charts will provide an approximate indication of ionospheric conditions for all Amateur contacts from South Eastern Australia to the various world zones.

The Perth charts are similar to those based on Canberra. No forecasts are given from Perth to Zones Z2 and Z4 for the current month, as chart P-Z2 would be essentially similar to chart P-Z1, while chart P-Z4 might be unreliable due to auroral activity in high northern latitudes.

USE OF CHARTS

All that is necessary in using the charts is to select a time (G.M.T.) during which a specified Amateur band frequency is below the maximum usable frequency (m.u.f.) of the F region of the ionosphere but above the lowest useful frequency (l.u.f.) for the desired contact. In two cases, Zones 1 and 3a it is necessary to consult both the short-route (S.R.) chart and the following long-route (L.R.) chart.

QUIZ

The Prediction Service welcomes comments on the accuracy of its predictions. In particular, answers to the following questions on the Canberra-Mediterranean circuit would be useful:

1. Was the 28 Mc. band workable for several hours before noon G.M.T.?
2. Did the 7 Mc. band regularly become workable soon after 1400 hours and unworkable at about 21 hours G.M.T.?
3. Were conditions good on the 14 Mc. band throughout the period noon to midnight G.M.T.?

Answers to the Quiz should be sent to the W.I.A. and should, if possible, refer to consistent results obtained on the majority of days in the month.

THE OLD MAN

"WE." On looking up the Oxford Dictionary I find the word "WE" given as the plural subject of I, Us or Our, why then do we have to listen to the nit-wit who, when working a station, lets fly the following "We have a three element beam and we have a 50 foot tower, we have a pair of 809s in the final and so on." If the station is licensed to one person, how on earth can it suddenly become plural. This is a most irritating thing to listen to, maybe you fellows haven't looked at it in this light.

"I can't possibly splatter, I have speech clipping in." How often have you heard those remarks and if you felt like I did, you would gnash your teeth and wonder at the child-like faith these people put into the fact that once having installed speech clipping, they can wind up the gain without any fear whatsoever of splatter.

If you do install clipping make sure that it is doing the job before you wind up the main. The limit, of course, is the bloke who knows it doesn't work and who goes along blithely taking up a quarter of the band. The outstanding exponent of this sort of thing this month is VK3UQ, as you said yourself, old man, your splatter suppressor definitely does NOT work.

Another of the Hams who knew his phone was bad, and believe me my analysis of it would have been putrid, was VK3ANT, the most dreadful phone I have heard in years with a horrible ripple and a hum on the carrier. If, as you say, the hum is caused by the power supply being close to the dynamic mike, then for the love of mike get the darned thing away from it or keep off the air until your quality is lots better than when I heard you.

The best CQ merchant for the month is undoubtedly VK4TR. Dozens of CQs with an occasional call sign thrown in for luck. I bet you personally wouldn't have listened to a DX station who called like you did OM.

The palm for the best "butter-in" this month goes to VK2AGW. The story goes like this: VK2OQ was in contact with G3BI and with the QSO only half completed, up pops VK2AGW calling G3BI dead on 2OQ's frequency with a request to test a new antenna. However anxious you might have been to get a check 2AGW, it would have been abiding by the Regulations to have waited until the QSO was completed and it would have been gentlemanly. As I heard one well-known Ham say the other day, this attitude of intolerance is to be deplored, where has the HAM SPIRIT gone these days? I believe it is still present, but sadly overshadowed by acts such as this.

VK2BK is another of the selfish splatterers and if the Yank believed all the bull you were putting over to him, I under-rate his intelligence. Incidentally your frequency was so close to being out of the band that had you coughed, the deed would have been done.

I was very surprised to hear a member of the Church say that three polar bears had called at his shack, but found it so cold that they decided to go back to the North Pole, how could you "Monty."

I have mentioned backgrounds in phone transmissions before, and VK5RR would be well advised to reduce the gain on his microphone and speak closer to it. You would be surprised at what that mike picks up. The most unstable v.f.o. for the month goes to VK6VM, in fact the worst wandering v.f.o. I have heard yet. I would suggest you put an anchor on it next time OM and see if that would hold it steady.

VK3MZ sounds as though he might be selling rabbits or something when he calls CQ on phone. It sounds something like this: CQ CQCQCQCQCQ.

Breaking in without announcing call signs is taboo and VK5KE would have collected a Pro-forma B had the Department been listening when I was. Even if you had to get the car out for your wife, it was no excuse for not announcing your call.

And finally, according to theories advanced under mathematical laws of probability and averages, an "uneducated monkey, banging away at a morse key for a sufficiently long time would finally, though unknowingly, send a perfect three and three CQ and sign YOUR call." Cheers fellows until next month.

BOOK REVIEW.

A.R.R.L. ANTENNA BOOK

The new greatly enlarged 5th edition of the A.R.R.L. Antenna Book just published represents an accumulation of ten more years of the Amateur's experience in both war and peace in making the all-important ever fascinating "sky wire" carry signals to the ends of the earth. The data contained in this book are the result of practical experience both of the Authors and hundreds of Amateurs who have contributed to the practical know-how that this book expresses.

The book has two principal divisions, Chapters 1 through 5 deal with the principles of antennae and transmission lines, wave progagation and its relationship to antenna design, and the performance characteristics of directive antenna systems. These five chapters might be called a textbook on antennae; they enable the reader to design a system of his own to fit his particular needs.

Beginning with Chapter 6, there is a series of chapters in which complete data are given on specific designs for the various Amateur bands. The Amateur who has not studied the first section, or who wishes to avoid the necessity for making his own calculations, will find in these chapters the information necessary for putting up the system that appeals to him. The remaining chapters deal with the highly important mechanical features of construction and related subjects such as determining geographical directions.

The A.R.R.L. Antenna Book (Fifth Edition, 1949), by the Headquarters Staff of the American Radio Relay League, is the standard manual of design and construction of Amateur radio antenna systems and related subjects, completely re-writeen and re-styled. 288 pages, 6½" x 9½", bibliography of antenna design, and a five-page topical index. There are 831 illustrations, including 72 charts and tables, 72 basic formulae. Available from McGill's Authorised Newsagency. price 10/6.

North Coast Amateurs in Emergency Work

BY PETER ALEXANDER, VK2PA, W.I.A. ZONE OFFICER

Just over a month after the Hunter Valley floods, 26th and 27th July saw North Coast Amateurs in action during a cyclonic disturbance at Port Macquarie.

2SH and 2PA were authorised by the P.M.G's. Department to handle urgent traffic to and from the town. Communications were cut on 25th July when gusts up to 84 m.p.h. and 12 inches of rain in three days damaged telephone circuits.

It was not until the local electricity authorities ran short of 11 k.v.a. chemical fuses, and a total black-out looked emminent, that the local engineer sought the assistance of local Amateurs. Doug 2SH, after interviewing the local postmaster, contacted 2ANF who telephoned the Wireless Branch and informed them of the position. The official station VNS opened up on 7 Mc. and traffic was handled on that frequency until 1700 hours. In the interim 2PA re-erected an 80 metre zepp, while not assisting at 2SH, and at 1700 hours 2PA was put into operation on 4720 Kc. using the call sign VNS1. A continuous watch was kept until 2100 hours and more traffic was handled.

Watch was again set at 0900 hours on the 27th on 7 Mc., working 2AA. In the meantime the P.M.G. had restored normal line communication and the emergency watch was closed at 1215 hours.

During the afternoon of the 26th July shifts were organised, in case it became necessary to run a continuous watch through the night. Operators available, in addition to 2SH and 2PA, were 2DS, Len Smith (awaiting a call sign), Bill Smith P.M.G., and 2PA's father (a budding Ham).

Emergency battery operated equipment was ready to go, and it would have been set up at the local post office, but it was not required.

Most of the North Coast gang 2XO, 2GS, 2ANF and 2AEY were handy if needed.

Bill 2AEY was standing by in case the lines to Taree failed. The cyclone lasted three days and was the worst Port Macquarie had experienced for many years. Much damage was done to crops and some to buildings, not to forget the demise of beams and other Ham antennae. Considering the force of the wind, the town escaped very lightly.

"Operation Omeo"

When bad weather conditions prevailed in the Eastern and North-Eastern parts of Victoria, a state of emergency arose when road and wire line communications were interrupted on Wednesday, 20th July.

Omeo and districts suffered a terrific blizzard and heavy falls of snow which resulted in roads into and out of the town being completely blocked and telephone and telegraph lines being brought down for distances up to ten miles.

The roads to the Gap, Smith's Creek, Mt. Hotham, and Benambra were also closed for miles by heavy snowdrifts.

Bill Williams VK3WE opened up on the 7 Mc. band at approximately 1100 hours on 20/7/49 and called "CQ Emergency, Melbourne." This call was heard by Jerry Lane, of Nunawading, an Institute Associate, who rang the Institute Secretary, Mrs. Cross, at the W.I.A. office, Mrs. Cross contacted Reg Busch VK3LS who promptly alerted Bill Brownbill VK3BU (Geelong), Max Howden VK3BQ, and Bert Leckie VK3LH.

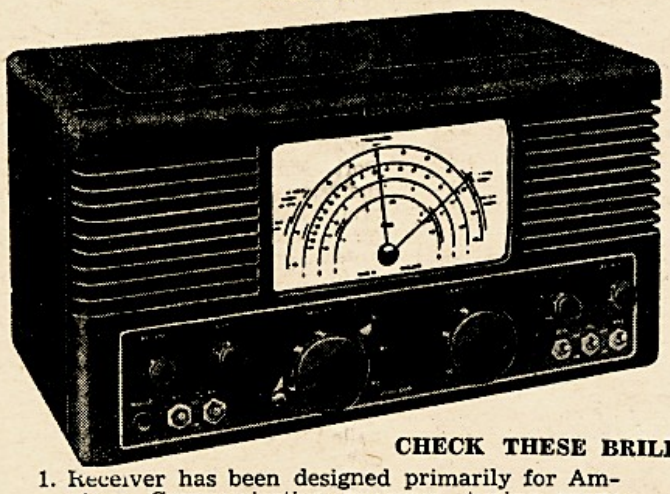
VK3BU handled a message from VK3WE for the P.M.G. This message was handed into the Geelong Post Office for transmission to the branch concerned. The telegraphic section contacted VK3LS later in the afternoon and gave an engineering telephone number that would receive any further P.M.G. messages from the Network. They also forwarded their regards for the co-operation rendered.

At 1800 hours VK3LS stood by on sked for VK3WE, but at 1750 hours the Omeo power supply failed and VK3WE was not on the air until later in the night.

No emergency messages were handled on 21/7/49, but on Friday afternoon Gordon Dennis VK3TF advised VK3LS that VK3WE was again calling "CQ Emergency, Melbourne." Ken Rankin VK3KR (Benalla) stood by while Ivor Stafford VK3XB received a message from VK3WE for D24 (Melbourne Police Department).

At 1630 hours, D24 asked VK3LS to pass a message via VK3WE to the Omeo police. Later D24 asked for full details of the Emergency Network and also offered their thanks for the help rendered.

THE "TOPS" IN AMATEUR COMMUNICATION RECEIVERS—



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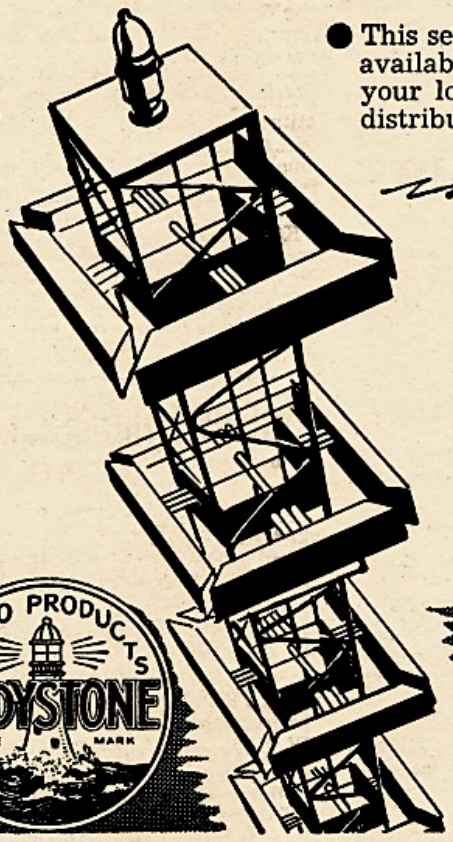
CHECK THESE BRILLIANT FEATURES:—

1. Receiver has been designed primarily for Amateur Communication purposes, tuning range from 31 Mc/s. to 1.7 Mc/s.
2. Designed to operate from Standard A.C. Mains with inputs of 110 volts, 200/240 volts, 40/60 cycles as well as from a 6 volt battery by the use of a separate Vibrator Unit (Cat. No. 687).
3. Inclusive all valves, the "640" is a 9-valve job with one tuned R.F. stage, F.C., two I.F. stages, detector-A.V.C.-1st audio, 2nd audio output, noise limiter, B.F.O., and rectifier. The valves used, in that order, are EF39, 6K8, EF39, EF39, 6Q7, 6V6, EB34, EF39, and 6X5. These are all international octal based on Mullard or Brimar versions and are therefore easily replaceable.
4. INPUT IMPEDANCE—400 ohms.
5. TUNING RANGE—(1) 31 to 12.5 Mc/s.
   (2) 12.5 to 5 Mc/s.
   (3) 5 to 1.7 Mc/s.
6. TUNING.—An electrical band-spread arrangement is used for this purpose. Fly-wheel control is utilised on the band-spread condenser drive. The scale is clearly marked with all Amateur bands, and is so arranged to enable accurate re-setting to a spot frequency.
7. I.F. FREQUENCY—1600 Kc/s.
8. CRYSTAL FILTER is vacuum mounted to provide a high degree of stability. Phasing control and "in/out" switch are brought out to the front panel.
9. Sensitivity is better than 2 microvolts input, for 50 milliwatts output, at all frequencies.
10. OUTPUT.—Audio frequency output exceeds 3.5 watts.
11. "S" METER.—A socket is provided for an external "S" Meter (Cat. No. 669).

● This set is now available from your local . . . distributor.



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VK-ZL International DX Contest 1949

The Wireless Institute of Australia, in conjunction with the New Zealand Association of Radio Transmitters, has pleasure in announcing the Rules for the 1949 VK-ZL DX Contest, and trust that the Contest this year will be even more popular than in the past. This Contest has proved its popularity and been looked forward to by Amateurs, not only in VK and ZL, but by very many stations all over the world. So remember the dates, join in and have lots of good contacts.

Objects.—For the world to contact VK and ZL stations and vice versa.

When:

1401 G.M.T. 30th September to 1359 G.M.T. 2nd October—c.w. operation.
1401 G.M.T. 7th October to 1359 G.M.T. 9th October—phone operation.
1401 G.M.T. 14th October to 1359 G.M.T. 16th October—c.w. operation.
1401 G.M.T. 21st October to 1359 G.M.T. 23rd October—phone operation.

Duration: (a) For contest purposes, VK and ZL stations will limit their period of operation to any consecutive 24 hour period on each week-end, within the times given above. Once a station commences operation, the operator will not exceed 24 consecutive hours of operation reckoned from such commencing time.

(b) Stations in all other countries may contact VK and ZL stations at any time within the operating periods shown above.

RULES

1. There shall be three main sections to the Contest: (a) Transmitting c.w.; (b) Transmitting phone: (c) Receiving (phone and c.w.).

2. Contestants may compete in the open events (all bands) or on one or more individual bands, provided they submit a log for each individual band.

3. The Contest is open to all licenced transmitting Amateurs and receiving stations in any part of the world. No prior entry need be made. Marine mobile and expedition stations (excluding VK1 stations) are not permitted to enter the Contest.

4. C.W. will be used for the first and third week-ends, and phone for the second and fourth week-ends. Stations entering for both phone and c.w. sections must submit separate logs for each (see Rule 12).

5. All Amateur frequency bands may be used.

6. Only one contact per band per week-end with any one station (for contest purposes) is permitted.

7. Only one licenced Amateur is permitted to operate any one station under the owner's call sign. Should two or more operators operate any particular station, each will be considered a competitor and must submit a separate log under his own call sign.

8. Each participant will assign himself a serial number of three figures. When two or more operators work from the one station, each will assign himself a different serial number. This serial number must remain unaltered for phone and c.w. operation.

9. Serial numbers to be exchanged during the Contest, will be as follows. The FIRST three numbers are those chosen in Rule 8, and will be retained throughout the Contest; and the SECOND three numbers will commence 000 for the first contact, and for subsequent contacts will be the FIRST three numbers of the Station of the previous contact.

SCORING

10. Three points may be claimed for a complete exchange of serial numbers. No points may be claimed unless the exchange of numbers is completed by both stations.

11. **Multipliers.**—(a) For VK and ZL stations. For each band, the multiplier will be the number of countries worked on that band, except that for the U.S.A. each call area shall be considered a country. The official A.R.R.L. or W.I.A. Countries List will be used.

(b) For other Stations. For each band, the multiplier will be the number of VK-ZL districts worked on that band. These are VKs 1, 2, 3, 4, 5, 6, 7, 9; and ZLs 1, 2, 3, 4.

(c) Stations entering the open (all bands) sections, will add together countries or VK-ZL districts worked on each band.

12. Total points scored (Rule 10) by the multiplier as applicable (Rule 11) shall determine the final score.

13. Logs.—(a) Logs must show in this order: Date, Time (G.M.T.), Band of Operation, Call of Station worked, Serial Number sent, Serial Number received, Points claimed, and new Country (VK-ZL district) worked.

(b) A separate log must be submitted for each band. For each band a summary must be given showing: (i) List of Countries (VK-ZL districts) worked; (ii) Total number of contacts made on that band; (iii) Points claimed for that band; (iv) Entrants in the open sections need only show (i) and (ii) for each band.

(c) A summary sheet to show the call sign of the station, name and address of the operator, whether phone or c.w., single band or all band operation, total points claimed, and finally a declaration that all contest rules and regulations for Amateur Radio in your particular country have been observed, and that the log is correct and true to the best of your belief.

14. The judges reserve the right to disqualify any station for (a) Consistent tone reports under T8; (b) Continuing key clicks; (c) phone splatter and/or excessive modulation, and (d) off frequency operation.

15. The Federal Executive of the W.I.A. shall be the sole adjudicators and their ruling will be binding in the case of any dispute.

16. Overseas stations should call "CQ VK-ZL" and VK-ZL stations "CQ DX TEST."

17. **Awards.**—Attractive Certificates will be awarded to the station returning the highest score from each particular country and each call area in the U.S.A. Additional Certificates may be issued at the discretion of the Contest Committee.

18. There shall be no World winner. VK-ZL trophies, awards, etc., will be announced by the W.I.A. and the N.Z.A.R.T. respectively.

19. Entries from overseas stations should be endorsed "VK-ZL Contest" and should be forwarded to reach the W.I.A., Box 2611W, G.P.O., Melbourne, by 16th January, 1950. Logs from ZL stations should reach the same address by the 26th November, 1949. VK logs will be sent to their respective Divisions and onforwarded to reach the Box by the 26th November, 1949.

RECEIVING CONTEST

1. The Rules for the Receiving Contest are the same as for the Transmitting Contest, but is open to all members of any Short Wave Listeners' Society in the world. No transmitting station is permitted to enter for the receiving contest too.

2. The Contest times and the logging of stations once on each band per week-end are subject to the same rules as for the transmitting contest, except that listening stations in Australia and New Zealand may listen and log stations over the whole period of the contest. Logs will be in the same form as for the transmitting contest.

3. To count for points, the call sign of the station being called, the strength and tone of the calling station, together with the serial numbers sent by the calling station must be entered in the log. Three points may be claimed for each entry in the log complying with the above.

4. It is not sufficient to log a station calling CQ Contest.

5. VK receiving stations cannot log VK stations and ZL receiving stations cannot log ZL stations. Only overseas stations may be logged, but VKs may log ZLs and vice versa. Overseas stations will log only VK and ZL stations heard operating in the Contest.

6. The awards in the receiving contest will be similar to those in the transmitting contest.

A.R.C.I. DX Contest September 1949

RULES

1. The Contest is open to all licenced Amateurs of countries lying between the longitudes 10°E and 180°E, i.e. roughly from South Africa to New Zealand in the South, and Eastern Europe to Japan in the North.

2. Distinctive certificates will be awarded to the three leading local and DX stations and also to the leading station of each zone from which at least five entries are received. Entries must be received not later than 30th November, 1949, and should be addressed to A.R.C.I. DX Contest (Sept. '49), P.O. Box 6666, Bombay 20.

3. The decision of the Contest Committee will be the final.

4. Only the entrant is allowed to operate a specific station during the contest.

5. The contest will extend from 1700 hours I.S.T. (1130 hours G.M.T.), Saturday, September 17, to 2400 hours I.S.T. (1830 hours G.M.T.), Sunday, September 18, and from 1700 hours I.S.T. (1130 hours G.M.T., Saturday, September 24, to 2400 hours I.S.T. (1830 hours G.M.T.), Sunday, September 25, 1949.

6. All local stations will exchange with stations in the rest of the countries within the contest zone.

(a) **For all phone contacts**—Five figure groups, the first two digits indicating the signal report (R.S. only) and the last three digits indicating the serial number of total contacts made by the entrant e.g. for the eighth station contacted by the entrant whose signals are R5 S8 the five figure group will be 58008.

(b) **For all C.W. contacts**—Six figure groups, the first three digits indicating the report in RST system and the last three digits showing the serial number of the station contacted, e.g. for the eighty-fifth station contacted, the entrants' number will be 589085.

7. For the purpose of this contest, all stations in India, Burma, Ceylon, and Pakistan will be considered as local stations, the rest of the countries will be divided into zones according to the official country prefix list.

8. Bands.—Only 14 and 28 Mc. Amateur bands will be used.

9. **Scoring.**—Contacts will count only between one local station and a DX station. No contacts between two local stations or between two DX stations of the same country will count for points.

(a) For phone contacts one point per station worked in EACH band will count.

(b) For c.w. contacts a 30 per cent. bonus will be awarded to an entrant who works exclusively on c.w. during the contact.

(c) For mixed c.w. and phone contacts no special advantages will be permitted and points will be awarded as in para 9(a) above.

(d) Only ONE contact with any one station will count for points in one band during any one week-end. Stations worked during the first week-end may be contacted again during the second week-end.

10. Band monitoring stations under the auspices of the A.R.C.I. will be active during the contest and any station reported off frequency will be disqualified.

11. The conditions laid down in the entrants' license will be observed.

12.—**Log.**—A log sheet showing the following details should be forwarded at the end of the contest: (a) Date, (b) Time I.S.T. (or G.M.T.), (c) Frequency, (d) Call of the station worked, (e) Five or six figure group sent, (f) Five or six figure group received, (g) Points claimed.

13. In addition to the information required vide para. 12, the log sheet should also contain the following: (a) Call sign of the entrant, (b) Name of the operator (in blocks), (c) Address, (d) Details of his transmitter, (e) Input power, (f) Receiver, (g) Antenna, (h) A signed declaration as follows: "I hereby certify that my station was operated strictly in accordance with the rules and spirit of this Contest and I agree that the decision of the A.R.C.I. Contest Committee shall be final in all cases of dispute."

14. Proofs of all contacts are required. It is suggested that when the entrant contacts DX stations, he should ask the latter to send their cards or other confirmation direct to P.O. Box 6666, Bombay 20, in the first instance from where these will be despatched to the respective owners after verification by the Contest Committee.

FIFTY MEGACYCLES AND ABOVE

Compiled by J. K. RIDGWAY, VK3CR.

Warwick Parsons (5PS) forwards a very interesting letter received from Laurie Sjoberg (5SL). 5SL is stationed at broadcast station 5RM, Renmark, the chief engineer of which is Hughie Lloyd 5BC. The letter contains so much of interest to South Australian, New South Wales and Victorian v.h.f. men that I think the best course is to quote it verbatim. Laurie writes:—

"We have formed a radio 'school' up here. 'We' being Fred Martens (5MA), Hughie Lloyd (5BC), and myself 5SL, and our class comprises four local chaps who are very interested in the game. The idea being to get these lads their tickets and then to form a radio club—'The Murray Net!'—in opposition to the 'Northern Net.' Our club frequency will be 144 Mc.—equipment for that being the first consideration for local rag chews, etc. The whole thing has very good possibilities as you can realise, being in a central position with regard to S.A., N.S.W., and Victoria, so when everything takes shape in the near future, plenty will be doing. We three Hams are all on shift work, but there is always one of us to take the class. Our meetings are held once a week and the boys are beginning to get ahead now. We had to start right from scratch—with both theory and code.

"The most important thing is a forthcoming 50 Mc. test from Accommodation Hill, to be carried out in the near future. Hugh is building a portable 7 Mc. rig to use for general communication and he will take his 50 Mc. transmitter with him, also some 144 Mc. gear if completed in time. Fred Martens is also going with Hugh—plus respective families, etc. (making a day of it—you see). I'll be at 5RM working things from there. 5AX at Gawler and 5GF, Adelaide, are two others joining in the fun and anyone interested is cordially invited too—not necessarily to go to Accommodation Hill, but perhaps from other points or from their local QTH. No date has been fixed, that depending on when gear is completed, but plenty of notice will be given. However more details of the equipment, etc., will be given as soon as more detailed plans are worked out. Accommodation Hill is the last of the hills of the Mt. Lofty Range on the main road to the River districts. It is about five miles on from Truno, and from it you look right out over the Murray Valley flats, ideal from 'line of sight' point of view!

"Hugh has been rather quiet of late, his activities being confined to a few QSOs on 40, and a lot of thinking about what to build for 144 Mc., that is, something bigger and better than the 7193 transceivers which we have been experimenting with. He has been buying odd pieces of disposal equipment too, so something worth while should be forthcoming in the future.

"For my part, I've bought up lots of odd disposals gear, an AT5 being amongst it, and I am gradually building up all the gear for a nice little Ham station. A few months should see me active on 40 and 20, and possibly 10 also. At the moment I'm building a 144 Mc. transmitter, using a 7193 as 72 Mc. (approx.) oscillator, a doubler using another 7193, driving an 832 final. With the four element beam (already in use with transceivers, etc.) and with the receiver set-up, to be built yet, I may do things with DX on 144! Who can tell? I hope to make Mt. Gambier, so watch out in a couple of months' time, boys. At the moment my receiver for 144 Mc. is a simple 'rush box,' no good at all for DX, but when I get this rig going, I'll let them know and will arrange a sked, but it will be a few weeks yet before I'll be ready.

"Fred Martens also is busy unwrapping boxes of disposal gear and trying to think of things to make. He too is keen on 144 Mc. and has a crystal controlled rig on that band. At the moment he is busy building a good receiver. The other day saw him rushing about with lengths of conduit and a gleam in his eye! Next thing we see a three element beam hovering precariously on a pole outside his house! He carried out tests with Hugh and strange as it seems, it worked quite well, miracles never cease!

"Recently we did a broadcast of the Morgan Races. Hugh went to Morgan while I was at 5RM. Hugh took his 50 Mc. receiver with him and I transmitted from 5RM, and we conducted tests at various points between here and there. Morgan is approximately 50 miles from Berri, but he couldn't hear me there, though he got me at a place called Taylorville—which is about eight miles from Morgan. Nothing like mixing business with pleasure—or vice versa!!"

Laurie concludes by promising to forward monthly reports from "The Murray Net."

FURTHER NEWS OF VIC. V.H.F. MARATHON

It has been realised that if the checking of logs is left until the conclusion of the Contest it will prove a terrific job for those responsible, so it has been decided to ask stations participating (and we hope this is everyone active on the v.h.f. bands) to send in details of contacts for which points are being claimed EACH MONTH. These details must cover activity from the first day to the last day of the month, inclusive.

Points to be covered are: (1) Date, (2) Time of commencement of contact, (3) Band used, (4) Call sign of station worked, (5) Reports received and given, (6) Distance (see below), (7) Points claimed for contact.

The distance need be given only if more than 1 point is being claimed for the contact. The distance need be only given approximately unless it appears that the station worked is at such a distance that it is difficult to determine the number of points to be claimed for the contact. If this is so, make a note to this effect alongside details of the contact and the distance will be checked on an accurate map.

The multiplier will apply to each month's work. Thus if during one month a station works on 144 Mc. alone, the score for that month will be multiplied by one. If during the next month he works on 144 and 576 Mc., that month's score will be multiplied by 1 plus 2, i.e. by 3.

If entrants work out their total month's score and include it on the entry, it will be a help to those checking the logs; however, this is not essential and as long as the details asked for above are included all will be well.

Do not forget to include your name, call sign, and address and forward the details to reach Keith King, VK3AKI, c/o. Vic. Division, W.I.A., 191 Queen Street, Melbourne, C.1, on or before the 8th of the month. A certain amount of extra time will be allowed this month, due to uncertainty of the date of appearance of this information.

We would once again appeal to all stations to support the Marathon, remember you do not have to be active over the entire period, but can send in a log for whatever times you are on during the six months of the competition. Don't forget those prizes that are being offered!

50 Mc. NEWS OF THE MONTH

New South Wales.—The signs indicate that the coming v.h.f. season will be by far the best yet. This combined with the Victorian v.h.f. contest and increasing interest being shown in v.h.f. work by stations who normally work 10-20-40 metres is most encouraging. The v.h.f. gang have better receivers, better antennae, and more efficient transmitters. More watts are skimming along the earth's surface owing to stacked antennae.

The v.h.f. contest in N.S.W. has brought 54 stations on the air on 50 Mc. Newcastle district stations heard regularly in Sydney are: 2BZ, 2YL, 2KQ (hard to work), and 2ADT. 2UF was worked by 2AH but has been silent for awhile. Frank will be going on 6 and 2 metres from now on and will be looking for contacts on both bands. 2BZ has r.f. on 2 metres now. 2ADT has cleaned things up after a little ribbon-in-pipe trouble, but has very solid signal now. 2KQ has 3 over 3 on six. 2KR listens on six and will be transmitting on two soon. 2YL is easier to contact now from poor location. The Sydney gang will be looking for 2UV and 2LH any time skeds can be arranged, also 2PA.

In Sydney stations re-building or completing new gear six are: 2AWZ 815 p.a., nice sig. 2HO same, yet to be put on air. 2NO something newer. 2XD will be going soon on six. 2YR has "halo" on mobile and works plenty of stations. 2XX has excellent signal with 5 watts, contacts Newcastle districts. 2ARG has 3 over 3 on six now up and is electrically rotated. 2BG has signal on 2 metres with 1143 and 3 over 3 antenna. 2UF also on six and two with beam on six and putting splendid signal out. 2AC went beam minded and increased signal plenty. 2AMV, of Gosford, back again. 2RU is always solid in Sydney. 2AH has transmitter that works from 80 to 2 metres. 2MQ re-building still, with complete re-arrangement of all transmitters.

2NP after hard local work. 2ZN has nice signal from "Harmonic Centre" (local s.s. mitters). 2LS has beam from "Denistone Hollow" which is still remarkably directional. 2AKB now tuning up. 2AJR using a beam soon. Also has 2nd op. assisting. His 6J6-832 m.o.p.a. for 2 metres is great success. 2VP has nice quality and plenty of punch with "halo" on six. 2GU had fine signal recently in Sydney. Like to have more QSOs Arch.

The congestion around 50 to 50.5 Mc. is becoming really serious. Many distant stations are within these frequencies. Such are: 2GU, 2BZ, 2UF, 2LY, 2YL, 2KQ. Local QSOs could be carried out after initial contact on higher frequencies within the band. Interstate QRM later during break throughs is going to cause many spoilt QSOs.

No v.h.f. meetings have taken place in Sydney owing to restrictions. The Committee have met for special occasions to arrange contests, etc.

Victoria.—There are a few sporadic E openings to report this month. On the 15th of July, 4XN was hearing harmonics from VK3 in the 50 Mc. band and at 1250 he contacted 3BQ who had just got home and had been informed over the phone by an s.w.l. that 4XN had been audible since 1200.

The next day short skip was observed on 28 Mc. from 1300 on but 4XN, about the only VK4 on the band these days apparently, did not get home until 1430. He then heard 3YJ and contacted 3VL, 3IM, 5GF, 3PG, 3YS, 3OD, and 3NW, the band remaining open until 1715. On the 17th 4HE of Bundaberg was heard working VK2s from 1200 to 1220, signals were not very strong however.

The band is much the same as it has been for the past few months in Melbourne, the usual sta-

(Continued on page 17)

FEDERAL, QSL, and DIVISIONAL NOTES

Federal President: W. R. Gronow, VK3WG; Federal Secretary: W. T. S. Mitchell, VK3UM, Box 2611W, G.P.O., Melbourne.

NEW SOUTH WALES

Secretary.—Dick Dowe (VK2RP), Box 1734, G.P.O., Sydney.

Meeting Night.—Fourth Friday of each month at Science House, Corner Gloucester and Essex Sts., Sydney.

Divisional Sub-Editor.—L. D. Cuffe, VK2AM, 14b Watson Street, Neutral Bay, N.S.W.

Zone Correspondents.—**North Coast and Tablelands:** P. A. H. Alexander, VK2PA, Hill St., Port Macquarie; **Newcastle:** E. J. Baker, VK2FP, 13 Skelton St., Hamilton, Newcastle; **Coalfields and Lakes:** H. Hawkins, VK2YL, 27 Comfort Ave., Cessnock; **Western:** G. J. Russell, VK2QA, 116 Bogan St., Nyngan; **South Coast and Tablelands:** R. H. Rayner, VK2DO, 42 Pettit St., Yass; **Southern:** E. N. Arnold, VK2OJ, 673 Forrest Hill Ave., Albury; **Western Suburbs:** A. C. Pearce, VK2AHB, 48 Harrabrook Ave., Five Docks; **Eastern Suburbs:** H. Kerr, VK2AX, No. 4 Flat, 144 Hewlett St., Bronte; **North Sydney:** L. D. Cuffe, VK2AM, 779 Military Rd., Mosman; **St. George:** J. A. Ackerman, VK2ALG, 32 Park Rd., Carlton; **South Sydney:** V. H. Wilson, VK2VW, Cr. Wilson St. and Marine Pde., Maroubra.

VICTORIA

Secretary.—C. C. Quin, VK3WQ.

Administrative Secretary.—Mrs. O. Cross, Law Court Chambers, 191 Queen St., Melbourne, C.1.

Meeting Night.—First Wednesday of each month at the Radio School, Melbourne Technical College.

Zone Correspondents.—**North Western:** R. E. Trebilcock, VK3TL, 122 Victoria St., Kerang; **Western:** C. C. Waring, VK3YW, 12 Skene St., Stawell; **South Western:** W. H. Ross, VK3UT, Ballangeich, via Warrnambool; **North Eastern:** J. A. Miller, VK3ABG, "Erinvale," Avenel; **Far North-Western Zone:** Harry Dobbyn, VK3MF, 42 Walnut Ave., Mildura; **Eastern Zone:** Mrs. P. M. Churchward, VK3US, "Shirley," Red Hill.

WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2WI.—Sundays, 1100 hours EST, 7196 Kc. and 2000 hours EST, 50.4 Mc. No frequency checks available from VK2WI. Intra-State working frequency, 7175 Kc.

VK3WI.—Sundays, 1130 hours EST, simultaneously on 3580 and 7196 Kc. and re-broadcast on 50 and 144 Mc. bands. Intra-State working frequency 7185 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

VK4WI.—Sundays, 0900 hours E.S.T. simultaneously on 3750 Kc., 7196 Kc., 14342 Kc., 52.4 Mc. and 144.138 Mc. Frequency checks are given two nights weekly, and the times are announced during Sunday broadcasts. 7065 Kc. channel is used from 1000 to 1030 hours each Sunday as VK4 query service to VK4WI.

VK5WI.—Sundays, 1000 hours SAST, on 7196 Kc. Frequency checks are given by VK5DW on Friday evenings on the 7 and 14 Mc. bands.

VK6WI.—Saturdays 1400 hours, Sundays 0930 hours WAST, on 7196 Kc. No frequency checks available.

VK7WI.—Second and Fourth Sundays at 1000 hours E.S.T. on 7196 Kc. No frequency checks are available.

QUEENSLAND

Secretary.—W. L. Stevens, VK4TB, Box 638J, G.P.O., Brisbane.

Meeting Night.—Last Friday in each month at the State Service Building, Elizabeth St., City.

Divisional Sub-Editor.—F. H. Shannon, VK4SN, Minden, via Rosewood.

SOUTH AUSTRALIA

Secretary.—E. A. Barbier, VK5MD, Box 1234K, G.P.O., Adelaide.

Meeting Night.—Second Tuesday of each month at 17 Waymouth St., Adelaide.

Divisional Sub-Editor.—W. W. Parsons, VK5PS, 483 Esplanade, Henley Beach.

WESTERN AUSTRALIA

Secretary.—W. E. Coxon, VK6AG, 7 Howard St., Perth.

Meeting Place.—Padbury House, Cnr. St. George's Ter. and King St., Perth.

Meeting Night.—Watch the Monthly Bulletin.

Divisional Sub-Editor.—George W. Ashley, VK6GA, 33 Mars Street, Carlisle, Western Australia.

TASMANIA

Secretary.—R. D. O'May, VK7OM, Box 371B, G.P.O., Hobart.

Meeting Night.—First Wednesday of each month at the Photographic Society's Rooms, 163 Liverpool St., Hobart.

Divisional Sub-Editor.—Capt. E. J. Cruise, VK7EJ, Anglesea Barracks, Hobart.

Northern Correspondent: C. P. Wright, VK7LZ, 3 Knight St., Launceston.

FEDERAL

DX C.C. LISTING

This month we welcome the first VK5 to the list—VK5FL. Congratulations to you, Ross.

PHONE

VK3JD	(1)	34	125
VK6RU	(2)	37	121
VK6KW	(4)	36	119
VK3BZ	(3)	37	116
VK6DD	(6)		100
VK3IG	(5)		100

C.W.

VK3BZ	(6)	40	145
VK3CN	(1)	40	143
VK3VW	(4)	39	134
VK2QL	(5)	40	132
VK4EL	(9)	39	129
VK3EK	(3)	39	121
VK3KB	(10)		120
VK4HR	(8)	39	117
VK2EO	(2)	40	115
VK4DA	(7)	38	112
VK4RF	(11)	35	110
VK3UM	(12)	36	105

OPEN

VK3BZ	(4)	40	171
VK2DI	(2)	40	159
VK6RU	(8)	37	153
VK3JE	(12)	39	147
VK3HG	(3)	39	141
VK3MC	(5)	39	138
VK4HR	(7)	39	138
VK6KW	(13)	39	137
VK3KX	(1)		135
VK4EL	(10)	39	129
VK3OP	(19)		128
VK2NS	(16)	39	122

New Open Member:—

VK5FL	(26)		116

COUNTRIES LIST

As an accurate map of the partition of Palestine is now to hand, cards are being checked for both Arab Palestine and Israel. Cards for contacts before the date of partition will only count for Palestine but for contacts after this date (14th May, 1948) will count for either Arab Palestine or Israel.

The following alterations to prefixes in the Countries List are notified:—

For Bahrein Island substitute prefix MP4.
For Guantanamo Bay substitute prefix KG4.
For Roumania substitute prefix YO.

"VOICE OF AMERICA" BROADCASTS

As from the 15th June, 1949, the A.R.R.L., through the "Voice of America" stations in the 11, 15, 17, and 21 Mc. broadcast bands at 2045 hours G.M.T., Saturday (0645 E.A.S.T. Sunday), and again at 1300 hours G.M.T., Sunday (2300 E.A.S.T. Sunday) on the 9, 11, 15, and 17 Mc. broadcast bands, broadcasts a programme of interest to Amateurs throughout the Far East. These are each 15 minute programmes.

Items of interest from the broadcast of 31st July, and given by Bill Leonard, W2SKE, included a talk on t.v.i. and the steps being taken by U.S. Amateurs to combat it, DX news by Rod Newkirk (DX Editor of "QST"), an interesting interview with Pat Miller, W2AIS ex-ZC8PM, and ionospheric predictions for 28 Mc. for August.

These broadcasts should prove of great interest to all Australian Amateurs and help all to keep abreast with the latest news from Overseas.

W.I.A. ACTIVITIES CALENDAR

Sept. 17-18: First week-end Indian DX Contest.
Sept. 24-25: Second week-end of Indian DX Contest.
Sept. 25: R.S.G.B. Direction Finding Contest.
Oct. 1-2: 1949 VK-ZL DX Contest (c.w.).
Oct. 8-9: 1949 VK-ZL DX Contest (phone).
Oct. 15-16: 1949 VK-ZL DX Contest (c.w.).
Oct. 22-23: 1949 VK-ZL DX Cont. (phone).
Oct. 29-30: European DX Contest.
Nov.: "CQ" DX Contest.

CONTROL OF MODELS

The P.M.G's. Department have notified F.E. that as from the 22nd July, 1949, Australian Amateurs are permitted to use A0, A1 and A2 type emissions for the control of model aircraft and boats. The frequencies on which this radio control may be used are the Amateur bands of 144 Mc. and upwards.

The P.M.G. have also informed that, on individual applications, permission may be granted for the use of the band 40.66 to 40.7 Mc. for the same purpose.

BROADCASTS FROM VK3WIA

Until such time as a Federal transmitter is obtained, these will be given by VK3UM with the call sign, VK3WIA. No regular schedules are planned as yet, but should any items of general interest be necessary, they will be promulgated, if possible, at 2000 hours E.A.S.T. on Fridays on 7007 Kc., and again at 1200 hours E.A.S.T. on Sundays on 14038 Kc.

The first of these broadcasts promulgated the information in the previous paragraph on the 22nd July on 7196 and 7007 Kc. at 2000 hours E.A.S.T. and again on 14038 Kc. at 1200 hours on the 24th July.

Regular schedules are kept with W1AW and are being arranged with the R.S.G.B. and the N.Z. A.R.T.

FEDERAL CONSTITUTION ALTERATION

Federal Executive, on behalf of the Federal Council of the Wireless Institute of Australia, hereby gives notice of its intention to alter the FEDERAL CONSTITUTION OF THE WIRELESS INSTITUTE OF AUSTRALIA (as amended) 1947, Part III, Section 9, as follows:—

"Each representative of a Division on the Federal Council shall be elected annually during the period of sixty days immediately prior to the commencement of the annual Federal Convention by the voting members of the respective Division."

1948 VK-ZL DX CONTEST RESULTS

A letter has been received from the Contest Manager of the N.Z.A.R.T. apologising for the delay in notifying the W.I.A. of the results of the 1948 Contest. It is hoped to have these to hand for the next issue of "A.R." Elsewhere in this issue will be found the Rules for the 1949 Contest conducted by the W.I.A. The first contest held by the newly-formed Amateur Radio Club of India (the official Indian Society) is also notified, and the rules will be found to be somewhat different to the usual run of Contests. Give both these Contests your support, and make them a success.

COMMERCIAL STATIONS IN AMATEUR BANDS

By the time this note appears in print, the report sheets should be ready for distribution to all Observers who have been appointed to log and collate information on these commercial "pirates." Do not leave this job to one man—you can assist by sending the few stations you log to him for inclusion on the monthly list. This is a matter of concern for each and every Amateur. If you do not makes these reports to your State Observer(s), you must be prepared to take the consequences of ever-increasing numbers of these tsations infiltrating into our precious banda. DO YOUR BIT.

FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

Here is a new one for the certificate hunters. The Radio Society of East Africa offers an annual certificate to any Amateur proving contacts with one VQ3 plus one VQ5 plus three VQ4 stations per annum (1st January-31st December) on telephony or c.w., or c.w.-phone on any band(s). Each certificate, which measures 15 by 10 inches, will be in the form of a special souvenir card bearing a large photograph of East African big game. There will be a different photograph each year. The possession of five of these annual certificates, together with proof of contact with one VQ1 station, will entitle the holder to claim the W.E.A. (Worked East Africa) Award that will be a very special and (we hope) treasured trophy. As the Ham population of East Africa is not very dense and finance is equally meagre, the R.S.E.A. regretfully are compelled to make a small charge for the annual certificate and the special award. It is therefore necessary to forward the sum of five shillings sterling with your claim for the annual certificate and a similar sum for the W.A.E. Award.

It is not necessary to forward QSL cards, merely quote log extracts when making claims for the 1946-47 and 1948 certificates. Claims for the 1949 certificate can also be made if the necessary contacts have already been made. Any profits that might accrue will be set aside for providing and maintaining an eventual headquarters station for the Society. The joint decision of the President of the Society and the Awards Manager shall be final and binding concerning all matters appertaining to the certificates and W.E.A. Award. A photograph of the certificate, which accompanied the above information, shows the certificate to be distinctly interesting and ornate. The address of the Society is: Awards Manager, c/o. East Africa QSL Bureau, Box 1313 Nairobi, Kenya Colony, Br. East Africa.

W4DRK, Fletcher F. Stephens, 511 N.E. 15 St., Miami, Florida, U.S.A., desires to swap stamps with any Australian philatelist.

From W5AQD, W. F. Worrell, Camden, Ark., U.S.A., comes the following: "I QSL 100 per cent. I notice from my log that cards are outstanding from VK3OJ and VK3BJ. Can you hurry them up please. I don't know whether or not you get bulletins from this country on war surplus equipment. If you do not you can write Esage Sales Co., 1306 Bond St., Los Angeles 15, Calif., for a list. They have a big supply of good stuff you can pick up for a song."

From DL1UU, W. Kawan, comes the information dated April, 1949, that German Hams were relicensed as from 14th March, 1949. Call signs issued to German stations will be DL1, 3, 6-0. The prefixes DL2, 4, and 5 have been reserved for members of the British, American, and French Forces respectively. Kawan is the secretary of the Deutscher Amateur Radio Club, Bohnenstr 7, Hamburg 11, Germany.

IMPORTANT

Would all Magazine Contributors please note that all contributions must be addressed to "Law Court Chambers," 191 Queen St., Melbourne, and NOT to the old box number.

Contributions, particularly notes, if addressed to the box number may not be received in sufficient time to be included in Magazine for the month for which they are intended.

The Spanish National Society (Union de Radio Aficionados Espanoles) has revived its activities now that Spanish Amateurs have been re-licensed. The U.R.E. has its QSL service at Box 220, Madrid.

The new registered address of the Ceylon QSL Bureau is Box 907, Colombo, Ceylon.

Further details on the passing of F. A. Bech, HB9CE (HE1CE) are now to hand. His death was due to electrocution whilst operating his station on 28 Mc. phone. He was getting his rig in readiness for the Swiss National Field Day, an event he always participated with great enthusiasm. Bech was first licensed as HB9CE in 1937 and was engaged in the radio business in Zurich where he built a modest electrical business into a large and thriving radio concern. Just prior to the war he operated for a time from the principality of Liechtenstein under HE1CE and his station became one of the most sought after by DX operators. His business premises were a meeting place for Amateurs all over the world. We join with others in sorrow at his sudden passing.

Victorian Division members were pleased to welcome at the August meeting of the Division, OK1WE, Pavel Rohan, who has taken up domicile in Australia. Pavel, who is a graduate of the Prague University in Electrical Engineering, is desirous of employment in that profession or the radio field and also needs housing for himself, his wife and child. Anyone who can help out in either direction should contact this Bureau.

According to advices from VK4 the station now signing VR4AA is genuine. It appears that immediately post-war there was a Ham station operated by a Yank who signed VR4AA. He was the phoney. Latterly, however, another station has started up with a similar call sign and he is stated to be genuine and is located at Honoria. The operator is not the same as he who operated the earlier VR4AA.

Strong feeling exists in VK4 over KH6VP/VR4 being ruled out of DX C.C. calculations. They point out that the U.S.A. has a long tenure lease of Guadalcanal and the station abovementioned was properly licensed by the F.C.C. of the U.S.A., likewise W0CTV/VR1 in the Gilberts.

Please tell all your W friends that VK4SI/VR1 is a phoney. The P.M.G. officially has never heard of him nor has the U.S.A. F.C.C. and all cards arriving for him have been claimed by the authorities in VK4.

There is also a feeling up north that Thursday Island should be a separate country, but am afraid very few will agree. There must be an ultimate in the current artificial creation of "new countries" most of which is inspired by country hungry Ws.

NEW SOUTH WALES

The July meeting of the N.S.W. Division was held at Federation House, Phillip Street, Sydney, on Thursday, 28th of July. That the meeting was held at all during the recent severe restrictions was due to the sterling efforts of members who secured the hall and arranged for emergency lighting, consisting of a series of six-volt globes run from an accumulator, and numerous hurricane lamps. Darkness rather permeated the rear corners of the hall, but sufficient light was there to enable Nev Williams (2XV) to deliver his eagerly awaited lecture on "Super Modulation." Large drawings helped the boys get a good picture of the scheme, and to say the whole affair was intensely interesting would be putting it mildly. If, as Mr. Williams said, the claims of the originator are at all accurate, the business is not only "super," but almost fantastic! Modulate your hundred watts with one watt of audio, or thereabouts. Yeah, I know, but that's what the man said, in effect!

The August meeting will deal with, among other things, certain amendments to the Articles of Association. It is hoped that this meeting will be held back at our old stamping ground, but if restrictions are still in force, it will take place at Federation House as before.

The full report of the splendid work of Amateurs in the Hunter River Valley emergency has been reported in "Amateur Radio," and once again the congratulations and thanks of this Division go forth to all those concerned in this magnificent effort.

FIFTY MEGACYCLES & ABOVE

(Continued from page 13)

tions keeping it alive, yet getting a little tired of working the same chaps time and time again. It is high time for some new stations to get going on this interesting and useful band.

Queensland.—On 15th July 4XN in Dalby worked 3BQ at 1250 hours. On 16th July 4XN worked five VK3s and 4CU worked five VK5s between 1550 hours and 1720 hours. 17th July, 4HE in Bundaberg between 1145 and 1250 hours worked VK2s ZN, ADW, BZ, ADT, UD, ABC, AH, and between 1500 and 1520 hours worked 5CU and 5QR. On the same date, 4HD also worked a number of southern stations. Details not to hand. 4CU and 4KK are making exhaustive tests to discover the cause of the QSB which is most noticeable when the moon is waxing. When all graphs, etc., are compiled they will be forwarded to Canberra authorities for comment.

Western Australia.—6WG sends details of his 50 Mc. outfit at Albany W.A.

Transmitter: 6AG7 Pierce crystal osc., 6V6 doubler, 815 final with 17 watts input, modulated by 807s in Class AB1. Receiver: 6AK5 r.f., ECH35 mixer osc., one stage of 455 Kc. i.f. using 6K7, 6J7G anode bend det., 42 output. Antenna is a 4 element beam with folded dipole radiator fed with 300 ohm line, height about 25 feet.

144 Mc. JOTTINGS

Victoria.—This band has had a new lease of life over the past month with several new stations appearing and some who have been missing for the past few months making a come back.

In the former category are 3EZ of Macleod who is using a 522 transmitter and an ASV receiver, together with a 6 element Yagi beam. 3KE and 3WX have also arrived on the band and are putting out good signals, however the writer has not contacted them at the time of sending in these notes so details of their gear are not available for this issue. 3MD has re-appeared on the band using 522 transmitting and receiving gear, and a 4 element beam and is putting out a very good signal.

A large amount of testing of receivers has been carried out this month. 3ZL's converter continues to do the rounds and interesting comparisons have been obtained between it and the 6AK5-6AK5-6J6 band-pass converters used by 3CP and 3BQ. It has been found that the latter type give a definitely better signal to noise ratio than the trough line converter. 3ABA and 3IM have been carrying out tests with neutralised 6J6 pre-amplifiers. 3ABA uses a push-pull cross neutralised circuit while 3IM uses one half as amplifier and the other as neutralising condenser. In both cases a definite improvement in signal to noise ratio has been observed, so those who wish to dig weak signals out of the noise are recommended to try a triode as the first r.f. stage of the receiver.

3AKE of Geelong has installed an 829B as a final and is running fairly high power with the result that his signals are much improved in Melbourne and he is being heard by several stations who found his signals difficult to receive before. 3IM has put up an 8 element all driven array which is giving better results than the previous stacked parasitic array. The bi-directional feature is also a distinct advantage. With the advent of warmer weather it is to be hoped that field days will get under way again and the co-operation of country stations in this type of activity would be much appreciated.

576 Mc.—VICTORIA

This band has undergone a temporary eclipse in VK3 due to most of the stations normally on the band being very much involved in the forthcoming Exhibition and not being able to spare the time for serious tests on the band. However, as soon as this matter is cleared up portable work will be resumed and it is also hoped that new inter-suburban paths will be opened up.

NORTH SHORE ZONE

Not a great deal to report this month, except that it's getting warmer, thank Heaven, and the fierce winds that delight in wrecking carefully assembled beams are becoming fewer. 2ES has ditched his rotary dipole in favour of a new three element 20 metre rotary, which is drawing envious glances from the gang. One of the elements on 2NI's two element job took to pointing at the ground after one of the blows, and the whole affair is now down for repairs. 2TL is progressing slowly with his shortened two element affair, but when it gets up it should be there to stay. 2PV and 2AM have the final in their joint rig going now, so will be back chasing that last elusive zone for W.A.Z. from now on. Haven't heard 2VN much of late—either his new junior op. takes up most of his operating time, or I don't listen at the right moments.

2AND is determined to reduce his coming transmitter to the barest of bare essentials which might mean anything. 2XM appears to be scaring up some nice DX for himself, as does 2AMB, who is lucky enough to get on at times when most of the local QRM is at work. 2BG is having fun and games on 144—this v.h.f. stuff really gets them in! 2ARG is also interested in that direction, and enjoys a relatively QRM-free location. Hear that 2GQ is talking of three element rotaries, reckons they can do the job better than his present shortened two element. 2RA, 2ZH and others getting set for the forthcoming Remembrance Day Contest, which looks like eclipsing last year's effort. 2GC starting on a chase after his commercial ticket—good luck, George. 2AH in the midst of bigger and better beams for the v.h.f's. Haven't heard from 2HO, the Squire of 'Art 'Ollow, in a long time.

SOUTH ZONE

Due to power restrictions activity has been at a very low ebb this month so these notes will, of necessity, be very brief. Most of the v.h.f. gang are busy hotting up their 50 Mc. gear preparatory to participating in the V.H.F. Contest in August. 2WJ has just about completed his new double conversion super for 6 metres. I heard it working recently and it is pretty hot. Have not heard 2UV on for some time now. Hope you haven't blown another power supply Bill. 2ABC is planning a bigger and better transmitter with all mod. cons., such as f.m., remote control, etc. 2ANB will be on 6 metres soon and hopes to make it in time for the contest. 2VW is active on all bands from 2 to 20 metres and giving the gear a general overhaul in between contacts. 2AB is busy getting a BC348 going. Will be interested in your results Jim as mine could do with some hotting up. Nothing heard from 2CP lately. 2ABU sticks to 20. Alex says he can work all the DX he wants there. 2AC also very quiet lately. 2ABH is active on 20 and 40 metres with a new R.C.A. transmitter and is very pleased with the results. 2ABB is still away, in G land. I think.

EASTERN SUBURBS ZONE

2FJ recently acquired a steel tower, feathering motor and selsyn indicators. With the able assistance of 2YF and 2AFZ, plus the usual willing helpers, Jack should soon have his rotary working. Expecting good results from this direction in the near future—especially on 144 Mc. 2AJG not very active but is heard occasionally on 20 and 40 c.w. and phone. 2AX re-building transmitter which is rumoured to be topped off with bandswitching from 10 to 80. 2KH heard on 20 after a long rest. 2TN back on the air after a lengthy spell. Still QRP, having re-built. Ivan has good phone on 20 and 40. 2EZ heard working DX on 20. Excellent fist and T9 sig. 2CF heard about once monthly! YL fever seems to be still in control—anybody know of a vaccine for this complaint? 2BY made a comeback after a long spell. Alex has re-built and is now running 813, Class B modulated. Super signal on 20 phone. 2NO heard working Gs in early evenings. Don's reports are generally better than S8. Recently heard using f.m. with a f.b. signal.

2AIG still using low power phone and getting good results. 2AHQ blames his third harmonic for his lack of activity. Ted won't tell why he wants to reserve the call sign VK2GEQ. 2VA often heard working DX on 20 with his usual T9 sig and excellent fist. Got that beam erected again, Vince?

WESTERN SUBURBS ZONE

There appears to be reduced activity generally in the area at present. Few of the locals are to be tempted into letting loose even a solitary squeak into the ether. A mysterious veil of silence hath descended over all. Poor conditions, worse weather, and the coal strike has put a damper on things. 2ALO is putting lots of effort into a new beam for 20 metres. This is how Alan keeps warm. 2QC is endeavouring to build a new rig. Jeff is moving from 10 as he finds the problems of harmonic interference too tough. 2MA is busy putting in metal 6L6s and still playing happily with his v.f.o. 2FA nothing heard since he left for the States. 2AGL is working 288 Mc. Had success on 10,000 Mc., but the light in his lighthouse bottle flickered out. Much lamentation! 2AJC has fitted a motor drive to his beam. It's a nice job and the beam is of all steel construction. 2JT is still pounding the key. 2ADL isn't doing much, but keeps up an interest on 20 metres. 2AHU has a relay system which has worked successfully for a whole month. One switch does the trick.

The Experimental Radio Society of N.S.W. (2LR) hold meetings fortnightly at Greenwood Hall, Liverpool Rd., Enfield, N.S.W. President: Mr. Wells, Liverpool Rd., Enfield; Secretary: J. L. Carter, 132 Madeline St., Belfield, N.S.W. Visitors are welcomed and new or intending members are assured of a bright and interesting time. The Society now has a transmitter working on 7 Mc. and will welcome QSOs. Meetings are held on alternate Thursday nights and there is much of interest in store, both in technical and social fields.

NORTH COAST AND TABLELANDS

During recent rain and cyclone, 2PA lost all antennae and two masts, but was able to erect an antenna for emergency work. 2SH was luckier, his anteanae stopped up, only mishap was broken feeder on G8PO. Doug finds the beam does an excellent job and puts an f.b. signal into W land. He is convinced that a beam is necessary for phone DX. 2XO and 2ARY building two 6 metre transceivers, both working on 80 mostly. Harry will have a new transmitter on 80 soon and accepts no responsibility for broken or bent S meter pointers.

2DK still putting out a nice signal on 40 and 80 with battery operated equipment, has scrapped vee beam and is using end fed zepp. The North Coast gang are organising an emergency network and anyone interested in becoming an active emergency network station are asked to contact 2XO or 2PA and supply details of battery operated equipment that is available. If permission is granted, full details will be supplied later.

COALFIELDS AND LAKES

2AEZ has receiver going on 50 Mc., get the Tx going Ern! 2RU getting ready for 6 metres and the Contest, doing a lot of 2 metre listening. 2AMU busy calibrating a grid dip oscillator. 2KR is able to listen on 6, but only active on 40. 2KZ still not going, what about coming on 6 Max? 2KF has not been heard since flood week-end. 2TY mainly to be found on 10. 2VU putting out nice phone on 40, what about six this season? 2MK hasn't been heard for a month. 2PZ has ideas for an auxiliary supply in case of emergency. 2ADT looking forward to the 6 metre Contest, has new beams on 6 and 2 and testing them out. Hears Sydney well on 144 Mc. 2YL at last has station re-built, took seven months, complete now 80 to 6 metres.

WESTERN ZONE

2ACU has been off owing to failure of local power supply, but can be heard now on 10, 20, 40 and 80. 2BT and 2WH have been coaching an embryo Ham in the person of John Meagher who sat for his ticket at the last exam. Dubbo also had two candidates so we might have something to write again soon. 2AMR has an auxiliary power supply so is on as usual. 2VZ was working portable from Sydney with good results.

Nothing heard of the Orange boys, guess the power cuts are affecting them. 2NS had a few Hams one Sunday to erect the new 20 metre beam —three elements. During the process they dismantled all the other antennae. 2QA is re-building the receiver. 2LY threatens to make the lower frequencies soon, has been on holidays. 2LZ active on occasions. 2EF sticking to 144 Mc. 2HZ hibernating for the winter, no DX—too cold!

SOUTH COAST AND TABLELANDS

Efforts were made to co-opt Amateur assistance during the heavy snowfalls around Delegate and Cooma and calls were made over 2CA for assistance. It was unfortunate Delegate's only Amateur is now Postmaster at Hay—he is Jack Woodman 2ZE. 2PI was on watch on 40 metres for any emergency calls and a completely portable rig for 80 metres was offered plus operator, but it was declined due to the fact that it was impossible to reach the snow bound towns.

I understand that Les, 7LT, has forsaken the Apple Isle for warmer climes. He is living at

Wyalong which is the home town of his brother George 2AFV. Tassie is too cold for Les and Wyalong too hot for his YF, so perhaps a search for Shangi-la is emminent. 2AIK heard handling traffic with emergency stations in the Hunter Valley. Monty 2JQ also assisted when skip worried 2AKP and 2AHA. 2ALS and 2PI had few minutes natter when 2ALS visited Hall. P.P. 807s with about 80 watts input is now the gear at 2PI. 2OY heard for a few minutes with usual solid signal, no news of other Goulburn boys. My own rig gave off frantic smoke signals and then blew up, but hope to make R.D. on c.w.

VICTORIA

EMERGENCY COMMUNICATION NET

Th Emergency Network is now operating on a frequency of 7130 Kc. This frequency will be used for all exercises and emergency operations. Stations wishing to partake in this work can advise VK3LS or come up on 7130 Kc. when exercises are being held. Exercise time—Sunday mornings at 1030 hours.

All stations holding W.I.A. emergency frequency crystals are asked to forward them to R. Busch, 5 Hillsyde Parade, North Essendon, W.6, by registered mail as they are needed for re-grinding to the new frequency.

VK3BU (Geelong) acted as control station for the network for the month of August.

CENTRAL WESTERN ZONE

Castlemaine, 18th September, is a place and date to be remembered. The Annual Convention of the zone will be held on that date and an attractive programme has been arranged. Here it is: 1200 hours assemble at Castlemaine Town Hall; 1315 hours Luncheon at Cumberland Hotel, drinks will be served in lounge at 1300 hours. Afternoon a demonstration of v.h.f. gear and technique. 1700 hours Annual Meeting (formal business only). 1800 hours Dinner at Cumberland Hotel, drinks will be served with meals. 1930 hours resumption of the Annual Meeting.

Catering costs will be 6/- per head per meal. During the day two prizes will be given: (1) An 813 and socket for a lucky door prize at the luncheon. (2) A pair of good blankets for the best piece of home-built equipment on display at the convention, entries may come from any zone, but must be accompanied by the builder; entries will be received up to 3 p.m. on the day and judging will be by secret ballot of those present.

Both prizes have been donated by 3XP, who has been a tower of strength in the organisation of this convention. Will all those intending to come (and you will miss a good show if you don't), please notify the Secretary, C. C. Waring, VK3YW, Shene St., Stawell, or Gordon Weynton, VK3XU, Box 10, Castlemaine, by Monday, 12th September, so that adequate catering arrangements can be made. Those requiring accommodation please contact 3XU as early as possible, we don't want you to sleep in the park, and we don't want you to stand, so hop to it chaps.

Mildura boys will be interested to know that 3PX has at last discarded the old t.r.f., and is very busy assembling a super-het. Cheers chaps and see you at Castlemaine.

NORTH EASTERN ZONE

The Fifth Convention was held in Wangaratta on 17th July, and was attended by 3IK, 3WQ, 3ML, 3PI, 3HP, 3KR, 3UI, 3TS, 3XU, 3ACK, 3APF, 3AT, 3FD, 3RT, 3ACW, 3ABG, 3JK, 3WZ, 3YV, 3BP, 2EU, 2ANQ, R. Anderson, R. Gibb, J. Harrington, G. Shelton, K. Tennant, K. Sloper, and J. Tilson (Mayor of Wangaratta). Several things kept more from coming. The hotel was next door to the police station, an R.I. was present, and with 3IK, 3ML and company in town from Friday, many doubted if any grog would be left by Sunday. 3YV reports Ian 3IK got away by himself on Saturday morning inspecting the large range of bottles in the rig at the Wangaratta Club, although 3ML, 3JK and 3PI joined him for the afternoon.

Business started about 10 a.m. Office-bearers for the coming year are 3AT President, 3APF Secretary, 3KR and 3YV Vice-Presidents, 3UI Communications, and 3ABG Zone Correspondent (not co-respondent as someone suggested).

Main discussion was on emergency work and frequencies. Gear by 3RR, 3UI, 3AT, and 3APF was shown while waiters kept glasses full.

After an excellent dinner, the gang visited 3JK, 3YV and 3WZ. A description of these stations will appear later. Power levels will be withheld only on receipt of some 813s.

3IK was up to his usual form, and was more interested in basketball than radio. The YL concerned in the affair is afraid of pub.icity (her family read "A.R."), so by a little blackmail we now have an honorary assistant correspondent and typist.

3ACW had a few (?) over the eight and this poem was the result:—

Lorna's Little Ham

Lorna had a wireless man,
All mad on radio,
And everywhere that Lorna goes
This Ham would like to go.
She went along to Wang one day,
According to the rule,
And while the Hams were talking, they
Held hands out of school.
But when the day was over
He should have lingered near
And not gone back to town
Leaving his blue-eyed Dear.
But ABG, the big bad wolf,
Was not to be outdone
He let her drive his car back home
Oh Gee! Oh Gosh! What fun!

EASTERN ZONE

After some discussion, we have decided to hold our next Convention the first week-end in February. 3TH and 3BB, of Ginnar and Morwell respectively, are making arrangements and, even at this early stage, they have some interesting tours planned.

Distressed to learn that fire had destroyed all of VK3CI's gear except for two 522s, the Zone got together, with the result that Syd has a Type 3 to use until he can re-build his rigs with gifts from Hams all over the State. We are all very pleased to know that you won't be giving the game away, Syd, and wish you bigger and better DX etc. in the future.

We have to thank ZL3MS for sending us a copy of "Break-In," giving a list of ZL calls and QTHs. It was a very pleasant surprise. Bill 3WE is living up to his reputation of always being on the spot in times of emergency, by providing communications when Omeo and district were snow-bound. 3AKM has hit 6 metres again with a brand new set-up. Mac is running 90 watts to a pair of p.p. 807s, into a three element close-spaced beam 35 feet high. Receiving equipment is a 16 tube double-conversion receiver, with a three tube converter for 6 metres. 3DI is re-building an old broadcast set into a really good communications receiver, and building up a new 6 metre portable, EF50 e.c.o., EF50 buffer, CV6 p.a. Jim is very pleased with the results from the EF50 oscillator, and is happy to be back on his old game after passing that exam.

3VL has his emergency 40-80 metre rig set up in the brooder house, so that he can get on the air whilst watching the chickens. With 3 watts input, and using the hoist-rope of the main antenna, Rex has worked ZL and VK6 on 80 phone! 3US is too busy to get on the air. 3PR has his new rig just about ready to hit the air. 3ACL and 3TH are still active on 6 metres, some good contacts being made. 3QZ is now working from his new house. 3RH was heard recently on 80 metres putting in a very good signal.

SOUTH WESTERN ZONE

This month many strange things have happened in this zone. I hear that AKE has v.h.f. in his blood and cracks 80 at times. GR has some type of super modulation that is all his own, by reports 3VA and 3MH split their sides laughing. 3BE had a break in Geelong after doing in his power tranny. 3VA cracked up his 100 watt modulation tranny, but hear that it's OK now. 3ZU has moved to a new house and hopes to put up a good antenna soon. 3DX has all elements on his rotary beam now, what about some r.f. in it Les? 3HG is thinking of getting a 680 receiver, Neil hasn't been the best of late. 3II had a fling at 20 the other day, and now finds that his back fence can be pulled down as he worked VK6 and 4 with f.b. reports. 3BI thinks that the scale may be coming over his eyes again, this time Bert is going to pump 100 watts of r.f. into them for a change. Heard 3AGV on 40 the other day with a fine signal.

3JA can be heard on 80 at times working 3HG and 3BW, but Jack is waiting on a new rig under the title of a TA12D covering all bands, 10 to 80 metres. 3HW can be heard any night working the DX on phone with a fine signal; John is putting up a new special four element wide-spaced rotary. A big surprise came the other day when 3HF stalled to say hello to the scribe; had a good yarn. Harry still has hopes of the 20 metre band coming good again; I hope it will also. Have not heard any news about the Geelong gang, but trust that they are getting their share of contacts. By the time this is printed, I hope to be adding another new call sign to our notes, it's none other than Mr. C. Churnside. You will notice I have put "Mr.," as if I did not do this I would not get my supper whenever I called upon him and his XYL.

Geelong Amateur Radio Club.—Members of the Geelong Amateur Radio Club started off their second year with 3AKE officiating. The programme for the next 12 months was drawn up and includes lectures, visits to Ham shacks and field days. So members are assured of a good time. The second meeting was in the capable hands of 3BU, who gave us an interesting lecture on narrow band f.m. The Secretary of the Club, Mr. Bob Wookey VK3IC, has been advised by the Wireless Institute of Australia that the Club has been accepted as a "Member Club" of the W.I.A.

QUEENSLAND

Owing to the power restrictions there has been very little activity in VK4 during the month of July. No general meeting was held and no Council meeting.

During the month the VK4 Division was unfortunate in losing its two meeting rooms in the city. When power restrictions are lifted it is expected that the next general meeting will be held in the Y.M.C.A. Building, Edward Street. When something definite has been arranged, official notice will be altered.

Conditions on all bands during the past month have been very erratic and 3.5 Mc. has been the only band with much activity.

ZONE NEWS

No news has been received this month from Townsville, Mackay and Downs Zone. We understand that our Downs correspondent is changing his QTH and so yours truly will have to look for another in that zone to collect the news.

Gympie (4HZ).—4XR and 4RA have been having a little competition all of their own. 4XR using 60 watts and a doublet, 4RA using 10 watts and a semi-vertical, so far 4RA is 4 S points up on 4XR according to the W stations. 4LN using a Hammock antenna which the local lads describe as weird and wonderful. Barry has been entertaining the C.S.I.R. gang and finds little time for the Gympie-Buderim 50 Mc. channel. 4CR has a new antenna tuning unit, but very busy at local b.c. station. 4HZ has a pitch fork antenna and new tuning unit. (Don't these fellows get some fancy names for their antennae?)

Maryborough Zone (4GH).—The local club has a number of very keen associates and QRM in this area is on the up and up. 4BG has a beam on 28 Mc., a new receiver and converter and a new third harmonic. 4BY off the air with tube trouble. 4AI has installed a splatter suppressor, new converter for 28 Mc., a new exciter, a new iron rack, a W8JK beam, and a brand new Broadcast Operator's Certificate. Congrats OM!

Bundaberg Zone (4BJ).—4PG presided over the July meeting when a Field Day was arranged to be held shortly. This will give the gang an opportunity to test their emergency gear. 4CW still working a few VEs on 14 Mc. 4HE filling the time working on 28 Mc. and in his spare moments building a new all band receiver.

Enrolment of the Division at the end of July was 199 members, made up of 60 students and 139 transmitting members.

SOUTH AUSTRALIA

The monthly general meeting for July was held at 17 Waymouth Street to a capacity house when Mr. Ralph Turner (5TR) gave a very interesting and instructivce lecture on "The Design of Coils for V.F.O's." Ralph dealt with his subject in a very commonsense manner and made what could have been a very technical lecture, appear as almost too simple for words. This system of lecturing always goes over well, as the average Ham is not a very technical minded cove and likes the lecturer to talk to him in his own language. Strangely enough it always seems that the man who knows his subject best always talks in the simplest language and does not attempt to blind his listeners with science. Ralph definitely succeeded in pleasing his large audience as was evident from the hearty applause that greeted the vote of thanks proposed by 5BY.

Among the very welcome visitors were Messrs. G. Dawson, D. Milton, 5LP, and from the country, 5RJ. Pleased to see you fellows, come again. Nothing of any note took place after the lecture, and but for my sparring partner, 5JD, and myself becoming entangled in a little verbal encounter, the meeting would probably have died on its feet. Don't let anything that Jack and I might stage bluff you fellows. Jack has very definite opinions and is not frightened to express them, and as that goes for me too, it is only natural that we should become entangled now and again. Anyway, you got a good laugh out of it, and it never cost you anything, you should worry!

I notice that one or two VK5 boys are over stressing their QTH in calling CQ. Without wishing to be personal, the fact that you say in calling CQ, "this is VK5ABC in the BLACK FOREST," thus conjuring up in the mind of your DX listener that you are surrounded by ogres, guomes, tarantula spiders, seventy foot pythons, with a couple of witches and devil doctors thrown in for good measure, won't get you any more DX answers than the next fellow. It will get you plenty of horse laughs from those who know just what and where Black Forest really is. If everybody started this habit, just think what could happen. For instance, take 5MD, his QTH adjoins the Adelaide railway yards, better known in railway circles as the Y cabin area. Now supposing he became affected with this habit, and started yelling "Hullo CQ, this is your rootin', tootin', ripsnortin', cowpuncher Eddie Barbier of the lonely Y cabin at the mike. What about a call from some buzzard, YIPPEE! Over to you!" Sounds ridiculous doesn't it, but if not, why not? (You little devil Eddie!!).

The VK5 Hams have all played the game during the recent power shortages and have stayed off the air as much as possible. It was, of course, a matter of using one's own judgment, and aside from one or two who apparently lost their judgment the day they secured their Amateur ticket, the gang here have done a fine job.

During the visit of the Secretary to Mount Gambier, 5TL took over the duties from "Doc" and if all is to be believed, did an excellent job. "Doc" reports that the South East gang are a fine bunch of boys and very W.I.A. minded. Don't you believe anything he said about me chaps, he is biassed to cut-off about me.

Amateur Radio is a grand hobby and has no greater advocate than me, but a few of the younger VK5 boys are letting their hobby take charge of them. They eat it, drink it, and sleep it, which is all wrong. A hobby should be a means of relaxation, something to come home to and forget the ordinary world in which we live, but quite a few are making it their world in which they live, and believe it from one who once passed through that stage, it will get you nowhere. I well remember how badly I had it before the war. I couldn't get into the shack quick enough, and would stay there until all hours of the morning. My poor XYL hardly ever saw me, and when she would come to the shack door and say "Petals" (that's her favorite name for me), "Petals, don't you think it is time for you to get some sleep," I would snarl at her like a wounded jaguar. Later on "Petals" would be sneaking into the bedroom about three in the morning, and having stubbed his big toe on the end of the bed, the XYL would softly say, "Petals, I think that Junior will learn that sort of talk soon enough without any help from you, so please be more quiet." Take it from "Petals," brothers, don't let it get you that bad, or it won't be long before you give it away and take up stamp collecting or something!!

Received a very welcome letter from 5XK who is on Kangaroo Island. Arch is the only Ham on the island although Bert Winter (a W.I.A. member) is having a go at the ticket and this should be a help to Arch. Bert is finding the code the obstacle (don't we all), but it looks as though it won't be long now. Anyway Bert, keep on pegging away at it, the first ten years are the hardest! Arch is on battery power with a Mark II., and finds it hard to QSO VK stations, although Yanks are too easy. Strangely enough the most reliable and consistent station heard on the Island is VK4KD, of Thursday Island. Thanks for the letter Arch, always pleased to hear from country Hams.

Was very pleased to hear 5XY back on the air again. Give him a shout gang, he welcomes contacts. Hope to contact you myself Neil. Congratulations go out to John Hampel (Associate member) for passing the broadcast operator's ticket. You will have to get that Ham ticket now John, as it has always been our proud boast that all the technicians at the best station in the State are Amateurs!

5TW is busy gargling his throat and improving his pronunciation in readiness for the new modulation transformer that is expected any day now. In between his vocal exercises, Tom has been snaring them in on ten. 5JA is airing the fact that he gave his transmitter a frequency check and found that it was flat from 40 cycles to 20,000 cycles. Whilst do doubts are cast on his statement, it has been suggested that John's measuring instruments may have been a little on the liberal side? 5CH is still very busy turning out the "ergs," but has managed to do a little bit toward the new transmitter, and should be using it on the air before these notes are published. He is anxious for VK5 city contacts and will be on twenty on Sundays.

5MS continues to work his share of the DX, judging by the number of stations I hear calling him. Why you nearly worked me once, didn't you Stewart? Understand the new wooden tower for the 20 metre beam is well under way too. 5FD is having a spot of bother in the new rig, not in the parallel 807s as expected, but in a buffer stage. John is seriously thinking of scrapping his "Clapp" v.f.o. in favour of the oscillating 6L6 buffer stage. I guess all will be well now that "Doc" has left the district. I'm not one to cast nasturtions, mind you. 5KU "erg," true to his name is after more ergs in his aerial, and with this in view has started on a new transmitter. The QRM position in the South East area should be lovely soon with all these new transmitters. "Erg" hopes to have the a.c. installed by the time the rig is ready.

5MD/Portable, Mt. Gambier. Say, this guy bobs up everywhere, I've just about had him. Close the door on your way out please Eddie. 5CJ has obtained a tapped armature-type rotary converter and has been busy winding auto-transformers, etc., and Col expects to be using a.c. by the time you read this. Of course if the noise from the d.c. side is too bad, back to d.c. he will have to go. OK about the holidays in August Col, and thanks again for the budget of news. By the way, "Doc" isn't as good a guy as you jokers paint him, I could tell you a few things. Very murky, very murky.

Once in a while some paragraph in my notes gets under the skin of one of the "Bigwigs" of Amateur Radio, usually because what I have written is an obvious lie or an obvious truth. Whoever it is that I have offended at once sits down and writes a very stiff letter on brown paper to "Doc" suggesting that I be suitably chastised. The latest gentleman to look over the top of his spectacles at me is Bill Mitchell, none other than the **Federal Secretary**, and really and truly I don't know whether to be overcome with pride, or cast down with shame, tinged with awe. Anyway Bill, my apologies to you or anybody else who may have attempted, unbeknown to me, to do something for Sotirious Stephanou (ex-SV1GR). In extenuation of my serious offence and in fairness to me as publicity officer for VK5, if I can ethically paint VK5 as the good fairy and all the other States as the wicked witch, then I consider that I have done a good job. I tell you what Bill, make me an offer over what they pay me in VK5 and I will come over and be publicity officer for the Federal Executive, and you will be surprised what lovely things I will say about you chaps. Seriously Bill, I am not as bad as I sound, just a little over imbued with VK5 spirit.

5GF threw a small hamfest at his QTH recently to celebrate the arrival of a little daughter (Jennifer Ann, so my spies tell me). All present were six metra addicts, and great care was taken to see that no twenty metre boys wangled their way in. The party had been in progress for about half an hour when a twenty metre guy was discovered. Yes, you have guessed it, "Gatecrasher Kelly" (5LW), who upon being challenged to prove himself, calmly said that he had had an S9 harmonic on six metres for months and if this didn't entitle him to be present, well what did. So staggered were his questioners with this reply that they were speechless, and Ross immediately took charge of proceedings and a good time was had by all. Everybody extends congratulations, Max.

A suggestion was submitted to Council at its meeting last month from 5JD that a committee of

four or five Hams be formed to compile the VK5 notes, with the idea of possibly improving the quality of the said notes. The President (5AW) said, after a short discussion by Council, that formation of a committee to compile the notes was quite unnecessary, but if any member felt like sending in items of news or short personal notes to the Sub-Editor, they would be more than welcome. So what about it Jack, it is back in your lap now.

WESTERN AUSTRALIA

The July meeting was held in the Institute Rooms on the 19th and, despite the threatening weather, there was a good roll-up of members. Amongst the regular attenders a few rare ones were seen—6GH, 6CM, 6HW, and 6IG. One of our newest members, John Wilson (VK6EW), was also present and was welcomed into the ranks in the usual manner. John has since been heard on 7 Mc. with a good phone signal.

Our Federal Councillor, 6GM, informed the meeting that Council had approached Federal Executive with a suggestion that the R.D. Contest be held over until the power position was stabilised to avoid giving some States, particularly VK6, an unfair advantage.

6JW, who ably handles the Sunday broadcasts from 6WI, told how the news reached members despite the power cuts. 6WZ, in faraway Geraldton—where the lights still shone—stepped into the breach and arranged to stand in for 6WI on the first two "black" Sundays. Nice work Harry! For the last Sunday we were without power, a portable rig was loaned by 6MB. This enabled 6WI to push out a lusty 7 watts which, we are told, was well heard by country members, much to 6MB's delight. To complete his report 6JW exhibited a few samples of 6WI's new QSL and presented 6WH with the first official post-war QSL from 6WI.

In presenting his report from the Contest Committee, 6DD dealt mainly with the recent 7 Mc. QSO "Scramble." This popular event was won by 6KW with the fine score of 42. A possible was 45. 6DD also informed members of an anonymous donation of an 0-1 Ma. meter as a trophy for the highest scoring country entrant. This resulted in a photo-finish between 6WU, 6DX and 6WG. 6WU was finally selected as the winner by a very close margin. Points stressed were that logs should be compiled strictly in accordance with the rules of the Contest Committee and all stations should submit a log if only to assist in checking. Out of 46 stations known to be operating, logs were received from only 33.

Presentation of the President's Trophy was then made to the winner, 6KW, by the President (6WH). It was different to the usual run of contest trophies, being a piece of silverware of the fruit-dish vintage. Jim Rumble, 6RU, gave a few more details of a trophy he is donating. Points will be allotted to members for winning, entering, and submitting a log in a W.I.A. contest, during the 12 months commencing the 1st of July. Such W.I.A. contests as the "R.D.," "VK-ZL," "National Field Day" will be covered as well as any local contests organised by the VK6 Contest Committee.

During general business 6DD again brought up the subject of the Institute offering assistance in the disposal of a deceased member's radio equipment so as to allow of a fair return to dependants. This was favourably received by the meeting and, after some discussion, was adopted.

A prolonged discussion over the old question of v.f.o. operation was started when 6HL resumed his June meeting request that the Institute give consideration to adopting the A.R.R.L. Operator's Code. After a lengthy debate, a motion that the code be left to the member's discretion was adopted.

Soon after the meeting adjourned for the ever-popular rag chew. The auction, however, was not so popular, only a couple of items being submitted.

PERSONALITIES

6FG of Mullewa is reported to have been batching recently. Find any time for Ham Radio after the dishes Frank? Heard 6RG QSOing 7LE with the VK7 using s.s.s.c. Sure sounds strange at first. 6RB is still inactive—blames the housing shortage—how about a portable rig Eric? 6HR has a nifty three element array on 28 Mc., more of this later we hope. 6DJ has become a frequenter of 7 Mc. these days with occasional bursts on 14 Mc. c.w. Lost the DX urge Bill? 6AP has a very efficient set-up including a 45 ft. tower with 10 and 20 metre beams. 6WT is one Ham whose countries list is creeping up. 93 worked, wasn't it Dave? with a big percentage confirmed. Dave says the salt air may be OK for the operator, but it's not so hot on the rig! It didn't take 6RU long to blow the cobwebs out of the rack after our big black. Heard him out after the rare ones on 14 Mc.

6RS last seen tussling with a TA12D; hope you tame it Ron. 6VM heard consistently on 7 Mc. phone working the East. The great mystery around Carlisle is what has happened to the 7 Mc. marker station, 6YZ. Did those 2A5s finally quit Dick? It would appear that 6GD has moved to 28 Mc. permanently. Don't blame him either, it's a shift worker's band alright! 6IG was heard to comment at the meeting that, in his opinion, c.w. is a dying art. Ian was on key in the "Scramble" and finally had to fire up the modulator to get into double figures with his contacts!

6LW was last heard of somewhere way up around 144 Mc. Heard 6AZ in Perth on 14 Mc. working VK5s at midday. 6LL busy on ten making good use of that new receiver. 6SA not heard so often nowadays. How's that new receiver coming along Jim? Ask 6WZ what l.l.f. is next time you hear his 30 odd watts on 7 Mc. Harry is now operating a baby bunnerong—a rotary d.c.-a.c. converter to you—and keeps Geraldton on the 40 metre map. Passing 6ND's QTH, noticed a very business-like version of the twin three antennae. A line from 6WG tells of much re-building in preparation for the open season on 50 Mc. 6DW, believe you snagged a bit of 10 metre DX when the band opened the other week-end. A letter to hand from 6AR tells of doings up in the Kimberleys. Apparently that district is one place in VK6 where the rare South Americans are workable any night the band is open. Alan writes "one or two PY7s and YV4s and 5s nearly every night!" Other points of interest are: crystal mikes don't bounce! v.f.o's. are handy items for DX chasing, and Alan's next antennae is to be a G8PO. Say Alan how about coming down to 7 Mc. to yarn with the locals.

Heard the Country Net going places on 3.5 Mc. the other Wednesday evening. All signals extra solid chaps. Any notes on activities, particularly from the country, please forward to 6GA, address is in the book. Almost forgot 6AS, Alec is preparing for the next DX season in a big way with a new shack and a steel tower for his three element on ten metres.

TASMANIA

NORTHERN ZONE

This zone has now been active for twelve months and at our June meeting, it was necessary to elect our new office-bearers. Mr. Don Brookes 7DB was re-elected as President, and Col Wright 7LZ was elected Secretary and Treasurer. Mr. Len Crooks agreed to arrange an itinerary of lectures for the year. It is possible that these lectures will start with a visit to the aerodrome in September; this will be followed by an inspection of the f.m. station controlling Launceston's radio equipped taxis, possibly the following month.

Mr. Les Templeman, ex-7LT has now been issued with the call sign VK2AEL and is looking forward to QSOs with his many Tasmanian friends. DX is still very poor, however 14 Mc. shows signs of livening up and most of our members have either been checking up or re-building in preparation for the coming season.

7TE advises that he will not be as active on 14 Mc. in future owing to pressure of work, however Peter Frith has now reached the required age and been allotted VK7PF for his call sign, so it looks as though we will have just as much QRM as ever. 7RK also promises to give the DX a thrashing this season. Owing to the fact that Mr. Perc Crawford will be out of the city for some months, it will be necessary for the zone to arrange for another meeting place, however all financial members will be duly notified in advance so keep the evening of Friday, 9th September, free.

CORRESPONDENCE

ACCURATE FREQUENCY TRANSMISSIONS

Box 86, Apotiki, N.Z.

Editor "A.R.," Sir,

Perhaps you will be interested to know that I was able to copy the Accurate Frequency Transmissions from VK3WI last night and make good use of it. For some time now I have been unable to check the calibration of my frequency meter against anything more reliable than locally generated b.c. harmonics and it was most satisfactory to copy the the trnsmissions last night at RST 579. Only one frequency was missed due to QRM.

We have no service of this kind on this side of the Tasman as yet, although it has been given consideration on a number of occasions. I look forward to receiving my copy of "A.R." and think it is a splendid magazine. Keep up the good work.

—JAMES H. PARKINSON, ZL1DU

A FURTHER OPEN LETTER TO VK2JP

25 Panoramic Rd., Nth. Balwyn, E.9, Vic.

Dear OM,

No doubt by now you have heeded the sound advice given in these columns recently by VK5PS and taken it in the spirit in which it was given.

But, to convince you beyond all doubt that the criticism is general and not isolated to VK5, I must relate an incident in which you almost robbed a rare DX station of vital news concerning the operator's mother who was very ill in a Melbourne hospital.

The station was YJ1AA at Vela, New Hebrides. It is owned and operated by Frank Palmer, one of the finest men in the DX game. Frank, who hails from Melbourne, is living on the island with his wife and three children.

Some few weeks back Frank told me he was very concerned over his mother's ill health and her possible operation. Mails were all delayed and he was very worried. I arranged to have Frank's father and brother standing by next day and schedules were arranged.

When contact was established next morning (signals were S7 both ways), you had to persist in jamming us to call Frank. You knew we were QSO but evidently you felt that, you "The Uncrowned King of 20 metre phone" had to bust the QSO for a new country.

You made the going tough and I've been copying through QRM for many years. Frank was worried—his wife and three children were all concerned. But you still can not keep old hands down for we can always pound brass and through the old reliable c.w., I was able to assure Frank all was well with his mother. Strangely enough you did not bother us during the c.w. QSO!

Remember old-timer, Amateur Radio is democracy itself. It is founded on the highest of all democratic principles. We do not want honorary organisers and dictators in the game. We have our W.I.A. to run our affairs. Please do not abuse the fine standard of tradition, unselfishness and co-operation we have built up.

I admire you for your ability to work DX but plenty of us in VK3 issue an open DX challenge to you but insist that with us it's "nothing below the belt." We'll take honest QRM with the best of them.

I raise my glass to a new VK2JP. Will you please join me in the toast?

—73, ROTH JONES, VK3BG.

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SELL OR EXCHANGE.—Rotary Converter, 230v. d.c.—230v. a.c. 0.3kv. Details H. R. Fitzsimmons, 26 Frederick Street, Horsham, Vic.

WANTED.—R.A.A.F. 61 plate Transmitting Condenser. Ident. No. Y10C/66510. Reply price, etc., F. R. O'Sullivan, Box 92, Bundaberg, Queensland.

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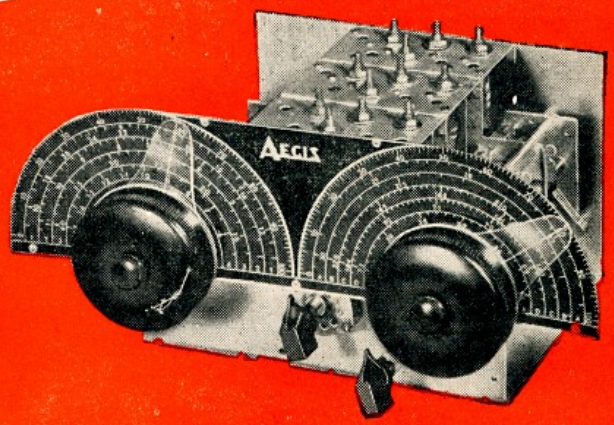

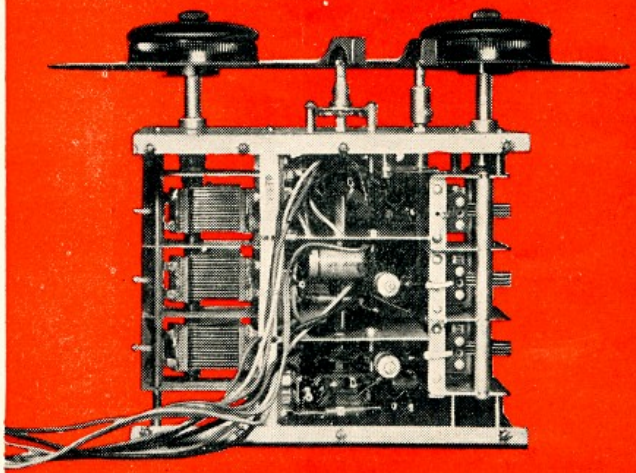

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